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Lessor beats odds, retrofits R/3

By Randy Weston

BIG SIX CONSULTING firms said, "No way," SAP AG said. "You're on your own." asset management and leasing

But GATX Capital Corp., an firm, was determined to buck conventional wisdom and do the unthinkable: force SAP's R/s software to fit its business rather and that if we were going to go than the other way around. The problem was

APPLICATIONS that R/1, like other enterprise resource planning systems, doesn't do leasing or asset management. But GATX does.

nancial officer at the San Francisco-based firm. "But we believed we could bring compound transactions needed for leasing transactions "SAP made it clear up front from-functionality already in SAP by making bolt-on front

and barges.

By India King

Leadership

deal lands

Delta hot CIO

INFORMATION TECHNOLOGY troubleshooter Charlie Feld has

that enables him to simultaneously launch his own IT lead-For the next two years, Feld.

55. will oversee the Atlanta

based carrier's 2,500-person in-

formation systems group, which operates as a subsidiary called

In exchange, Feld said, he will

receive a salary and benefits

Delta Technology, Inc.

ened on as chief information

cer at Delta Air Lines, Inc. under a unique arrangement

Two years after making the decision. GATX is ready to go live Jan. I with its R/3 system. which replaces a legacy mainframe system.

GATE, page 88

own," said Michael

Cromar, chief fi-

volume refund requests later Not only will R/3 man this week. Analysts predict \$1 GATX's 44,128 equipment and billion in holiday cybershopasset records, which total \$5 bilping, which could mean \$100 lion, but it also has been customized to handle complex leasmillion in returns if the realworld ratios hold up in the oning arrangements such as those line world for commercial aircraft, railcars

And industry watchers expect Europeil name ES Inside the Research Board

By Kim S. Nash

Reyond the wooden door of the Research Board, with its gold plate discreetly bearing the letters "RB," lies an elegant four-story townhouse with burnished wood paneling, antique furniture and views of a private courtyard. A uniformed maid pours tea from a silver pot into

china cups rimmed in gold. In this stately setting, billions of dollars worth of corporate technology decisions have been influenced for

nearly a quarter of a century Take a rare look inside the Research Board. Inc., a very private and influential club in New York for chief information officers at the world's biggest companies.

Desparch Board, page 20

INSIDE THIS ISSUE

CAUGHT IN YEAR 2000 SOUFEZE DEMO CASTS DOUBT ON MICROSOFT

Sun embraces Merced

vierts part to 64-bit chip slated to ship in 1999. Page 14

E-commerce = E-returns

► Sites may find return process more cumbersome

By Sharers Machlis

turst tips their brick and mortar counterparts, online retailers are bracing themselves for a postholiday tradition: holiday

gift returns. Many World Wide Web sites

will get their first taste of high-

On the road again? Like many companies, Greylock Management Corp. had no strategy for safeguarding the information

the staff stored on laptops while on uniness trips — until last year. That's who he Boston venture capital firm went to an returns housed backup service, says Mary fample, the company's chief financial officeremanies to follow Greylock's lead.

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Holiday cheer

o his list, his qu "SELECT KIDS, STATUS - GOOD"

nd s Christmas macro vira ock the firewalls with be nd give them to the CIO: e't worry, things will be just f



You're not going to believe this, but I'm Standing in front of a 14.4k chimney. I'll be have all night downloading this stuff!

If wishes were horses

 Survey: Few big companies have solid Y2K plans, but most believe systems will get fixed

By Thomas Hoffman

SERR'S A leap of faith Only 20% of America's biggest com panies have devised a fullfledged strategy to deal with the year 2000 date-change problem. Yet 87% of those polled in a new survey of Fortune soo compames expect to have more than half their systems fixed by the end of next year.

Poor planning for 2000 could cripple some businesses - for example, causing automobile assembly lines to shut down or stopping automated teller machines from spitting out money. executives held responsible for these systems are going to lose their jobs, predicted Rick lerothe, director of PC/LANs at Staten Island (N.Y.) University

Hospital. "It's project planning by wishing," said lim Woodward senior vice president at Cap Gemini America, a New York based consultancy with a year 2000 practice that sponsored the study conducted by Rubin

Systems, Inc. in New York. Woodward said year 2000 work is like an onion: "The more you neel back the layers. the more it makes you want to

COST CRUMCH The Can Germon study rewals other disturbing news about

acco probi

corporate progress with the millennium bug problem Eighty-two percent of compa nies admit they have underestsmated the costs to fix the year Meanwhile, 95% of the com-

panies polled said finding new staff to work on the problem has been "difficult or impossible." The Cap Gemini study is the latest in a series of polls conducted on corporate preparedness for the year 2000 problem since March 1995. The most recent sampling reflects a poll of to8 15 directors and managers from companies that represent

roughly one seventh of the U.S. gross domestic product. The results are amone the first statistical endence that year anno-related costs are putting the kibosh on new development efforts and systems enhance

For example, the study found

that the percentage of compa nses deferring new development work over the past eight months has increased from 11% to 18% (CW, March ut)

The percentage of firms choosing to defer enhancements to existing systems rose from 22% to 10% over the same Those figures map with data from other research firms.

annual IS budget and a special reserve fund created for the effort. That has allowed the utility to stay on-track with installing new PeopleSoft, Inc. human resources and payroli software by next March under a project Waleski placed in "the low to mid-six figure range.

The less-critical projects that Yankee Energy has had to put on the back burner include adding reporting enhancements to its accounts payable and work

NOT MUCH PLANNING yet only one in five Most firms say they will be year 2000-compliant ... are prepared How many of your systems will b tested and compliant by Jan. 1, 1999?

Bane: 108 IS directors and o

Stephanie Moore, an analyst at Giga Information Group in Westport, Conn., estimated that 18% to 32% of existing information technology budgets will have to be reallocated in fiscal 1008 for year 2000 work.

"I have a two-year backlog on new application development projects I'd like to have my year 2000 staff free to work on. Scott Waleski, director of IT and

services at Yankee Energy Systems, Inc. in Meriden, Conn Waleski was quick to note that the projects being delayed are nice-to-have systems - the

critical stuff is still being done." Yankee Energy's \$2 million year 2000 budget is being drawn partly from its \$8 million

order systems. Major projects, such as those involving PeopleSoft or SAP America, Inc. implementations and internet-based efforts "are practically unaffected" by year 2000 funding, said Low Marcoc-

cio, an analyst at Gartner Group. Inc. in Stamford, Conn. But millennium conversion costs are eating into new inhouse development efforts, such as sales force auto order entry and logistics avetems implementations, Marcoc-

cio said Other organizations, such as Staten Island Hospital, have opted to outsource as much year 2000 work as possible to "minimize the workload" and free up their IS staffers to focus on other projects. Jerothe said. []

Help-wanted ads can reveal a lot about companies and if you'd want to work for them

Web consortium gives HTML 4.0 its official blessing

▶ Internet standard will make designing pages easier

By Sharon Machlis

process, the World Wide Web Consortrum has finalized Hypertext Markup Language (HTML) 4.0 as an Internet stan-

Version 4.0 is aimed at making it easier for Web designers to build richer, more complex pages and to ensure that such pages look the same when they accessed with different browsers. HTML 4.0 also offers new flexibility for supporting multiple languages.

'The new elements give designers increased control of the page," said. Vic Powell, webmaster at the U.S. Department of Agriculture. HTML 4.0 will help Web pages "transform away from electronic versions of a printed page into their own style of information presentation "he said

The new standard hand ractors and text

Ian Jacobs, one of the editors of the new specification, said Microsoft Corp.'s Internet Explorer 4.0 and Netscape Communications Corp.'s Communicator already support several HTML 4.0 featur

Jacobs said he expects future versions will support the complete standard. HTML 4.0 was designed to improve the look and functionality of Web pages, with features such as advanced forms and

proved tables and style sheets The new standard also handles multilingual documents that use different characters and text direction, and allows table and form text to be converted to Braille or speech for disabled Web surfers.

But some webmasters say they've been too busy to follow the impending specifications.

"Mostly I wait until a spec is forced on me in order to get my business done," said Mitchel Ahern, vice president of the Webmaster's Guild. However, he said, the costs tium's standards are generally

sound. "I look forward to imp menting the juicy bits," he said. Information about HTML 4.0 is available at newers.org/ Mark Up/. A Web consorting validation service, to check for HTML 4.0 compliance, is at http://walidator.urg.org/.

JDK 1.2 features more tools, better security

By Sharon Gaudin

late last week released the latest beta version of its Java Development Kit (IDK), which features Java Foundation Classes, enhanced security and more Java-

IDK 1.2, which is expected to he officially released next June, is available at Sun's World Wide Web site (http://jssu.sun.com/ ide) for free download and trial. The kit is a development enviment for creating applications and mini-applications, or applets. It was slated to be commercially released in the first quarter pest year.

"This release seems to be about more tools, better tools and a finer degree of control." said Frank Manci, network technical manager at Colonial Sav ings F.A. in Fort Worth, Texas.

Looks like Sun is trying to do what Microsoft has been doing - offering one-stop shopping You have your lave language foundation classes. Web server. They're filling out the Java story [to] compete with Microsoft."

Manci said. Key enhancemen include permission manage ment for security, the inclusion of Java Foundation Classes, twodimensional and drag-and-drop capabilities and more lava

When the commercial JDK r.a ships, it is slated to include Sun's upcoming HotSpot Virtual Machine, which is supposed to boost lava's often lassing speed up to a C++ equivalent. A Sun spokesman last week said the company is delaying the official release of JDK 1.2 to give third-party developers a chance

to upgrade their tools, debuggers and beowsers so there isn't a long lan between the IDK release and widespread industry compliance. That lag caused a great deal of impotience with IDKIL

RE SECURITY

The security enhancements were designed to give developers more control over their applications and who has access to specific areas of the enterprise, said Gina Centoni, Java plat form group manager at JavaSoft,

JAVA'S NEXT STEP

the Java-focused arm of Sun. "IS managers can give certa users access to specific arras of the system and other users different access." Centoni said. "It's critical that the security model allows for varying access so only a few employees have access to personnel reviews and salaries and others have access

down to the metal."

"They've gone from a black and white security model to bet ter control." Grimes said. "That will make it a lot easier to instal applications. And som the operator wants to downle something and change their machine. This allows them to do that in a secure way "[]

Chase boosts CIO to No. 2

By Thomas Hofiman

AS PAST OF 8 MAIN shake-up at The Chase Manhattan Corp., CIO Denis O'Leary

was elevated to the No. a spot in the New York-based bank's worldwide consumer opera-He will serve on a new nine-

member executive committee that will run the nation's largest

O'Leary, 41, will report to Donald L. Boudreau, 57, formerly a vice chairman overseeing Chase's mortgage and credit card lending operations and

now responsible for the bank's

worldwide consumer O'Leary will manage electro

ic banking, telephone call cen-ters and other operations. Also named to the executive emmittee was Joseph G. Sponholz, 54, who will run Chase's technology and processing busi nesses. He previously was the bank's chief administrative offi cer. Sponholz also was formerb chief financial officer and chief

information officer at Chemical Banking Corp. and was credited. along with O'Leary, for smooth ing the merger between the two banks last year.

A successor for O'Leary isn't expected to be named, a bunk anokermoman said. D

Corrections

A story in Competenceria's internet Careers supplement (CW, Dec. 8) contained incorrect information on Cambridge Technolog Group's Web development team. Mark Sifting is director of electronic commerce, Cambridge Management Consulting, Ben Tayl responsible for business processes. Kipp Lynch didn't attend rox Parc, his menter did. And Lee Dingle joined Cambridge

Technology Group just over a year ago. In the Dec. 1 issue, a photo of Bill Oreis from the Lawre more National Laboratory was incorrectly identified as Bill Oris of L.P. Morean.

- E ENTERPRISE MET

Laptop users steer clear of Windows NT

Key issues: Battery life and lack of drivers

TO MANY laptop users, NT still means "not totable." "To anyone who travels, I-

would not recommend (Windows NTL" said Tom Tracey, systems officer at PNC Bank Corp. in Pittsburgh. Tracey recently upgraded his IBM ThinkPad 760 to 6sM

bytes of RAM so he could install the Windows NT 4.0 operating system. But with NT, "you don't get a warning when your system [battery] goes down. Just a black screen," he said.

To date, only 5% of corporate users have committed to using NT on notebooks, according to Gartner Group, Inc., a Stamford. Conn.-based consultancy. "I think there was an initial rush to go with NT," said Ken Dulaney, an analyst at Gartner

But NT was never designed to Indeed, Microsoft Corp.'s Windows NT 4.0 on notebook PCs lacks the power manage ment features, such as battery

life warnings, that users enjoyed with Windows 95. NT 4.0 also lacks the Plug and Play features, such as modern recognition, and the audio and video drivers of Windows 95. To get those capabilities, us-

ers must buy and install thirdparty utilities when available. "I think there was an initial rush to go with HT. But HT was never

designed to support notebooks." - Ken Dulaney, Gartner Group

Many users have been disappointed by some inconsistent notebook vendor support for NT 4.0 and aren't convinced it has the extra data security Microsoft promised. Many of the security features

of NT have already been broken by people who do that for a living," Dulaney said. Microsoft officials in Red-

mond, Wash., have said laptopfriendly power management and Plug-and-Play capabilities will be added in NT 5.0, which is due in 1999.

And forecasters say Windows NT will capture 30% of the laptop market by agos as com-

On laptons, IET 4.0 lacks:

- I Power management features
- Adequate battery life **8** Support for some audio and video
- drivers 8 Plug and Play

panies upgrade laptop pro cessors and memory to adopt NT SO.

"NT is the future," said Robert Ward, technical director at Pacific Bell Corp. in San Fran-cisco. But Ward, like other users, said his unit is holding back on installing NT. He said he is worried about bugs in the operating system and users' ex-

serience with corrupted hard "I want it to stabilize," Ward

OUT OF THE NAMSTREAM Mark Bolz, a systems consul

at PNC Bank, said about a doorn notebook users - all in the bank's information services department - are using NT on Dell Computer Corp. and IBM books for database and niche applications.

Bolz said shorter battery life is the biggest problem because NT drains the battery faster than Windows 95-Furthermore,

said, the promise of better security isn't enough to get users to upgrade to NT. "Most people won't use NT," Bolz said. "Security is not a deciding factor."

But Jerry Mishork, director of iformation systems at Synon Corp., a software application development company in Larkspur, Calif., said the company is considering future installation of NT on developers' machin to enhance security. He said the company will beta-test NT 5.0

"I don't want to be the first person on the block to have it running," he said. "We'll find out the horror stories and so from there." [3



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Uninstall demo raises Microsoft doubts

By Carol Slipps and Gary Anther WASHINGTON

AFTER SEFING A demonstration that performed otherwise, a federal judge last Priday cast doubt on Microsoft Corp.'s assertion that it isn't feasible to uncouple its Internet browser from the latest versions of its Windows operating system U.S. District Judge Thom

Penfield Jackson had issued a minary injunction here on Dec. 11, ordering Microsoft to stop requiring PC makers to bundle its Internet Explorer browner with Windows To comply with the order, Micontrol had offered a two

pronged option to PC makers: ship a 2'h-year-old operating system without the Internet Explacer because or license a version of Windows 95 without the Explorer files, which would repder Windows inoperable. But those options were reject ed by many users and analysts.

as well as the Justice Depart. ment, as unacceptable or unsupportable "Clearly, no one would offer what Microsoft is saving would

he an alternative," scoffed Dansel Hanson, director of the Greater Cleveland (Ohio) PC User Group, Inc., which has about 1,200 members. "If I were Compaq or one of the OEMs, I sure wouldn't want to offer that to my customers

They've taken the easiest way out," said Rick Waugh, a senior systems analyst at BC Telecom, Inc. in Vancouver, British Columbia. "They've caused the least grief for themselves and out the onus back on the PC mufacturees"

Amad waves of scorn and fol lowing a new complaint filed by lustice, the warring factions

went back to court last Friday Jackson's doubts arose after a demonstration last Thursday of the standard "uninstallation" utility, which ran on the latest versions of Windows or and Explacer and which removed the World Wate Web houseser in less

than 90 seconds Describing every icon, mouse click and system message, the judge said that upon completion of the process, "to all appearances, Windows os functioned

flawlessly as intended." IS SEEMO BELIEVING? As a result, the judge ordered

Microsoft and the Justice Department, which is pursuing the company on antitrust grounds, to appear before him Jan. 15 to answer the question. Is the uninstallation process that simple? At the end of the hearing, he said. "I want to know if I can believe my eyes."

Although neither of the warring parties had much to say after the hearing, government of ficials clearly saw the sudge's description of the uninstallation ition as a sign that the burden of proof in the dispute now lies with Microsoft

Jackson also will hear arguments at the same time on claims made by the Justice Department last week that Microsoft has violated the Dec. 11 injunction ICW, Dec. 151 and should be fined \$1 million per day for contempt.

browser is bundled

Brad Smith, Microsoft's associate general counsel, complained that the government had changed its mind, saving on

Dec. 11 that Microsoft must remove all traces of Explorer from Windows and now saying that It is OK to leave some of it installed. He said Windows has 14 million lines of code seven times as much as the Federal Aviation Administration has in its air traffic control system and "you can't slice and dice that with a legal meat cleaver. In a separate action, Microsoft appealed the court's preliminary injunction to an appellate court, claiming that the judge erred on several counts and that his ruling would set a dangerous prece dent, letting the government in terfere in product design. Cl Senior writer April Jacobs con

tributed to this story.



"Clearly, no one would offer what Microsoft is saving would

Windows 98 impact unclear

"I suspect there are changes they could make in the curre

For its part, Microsoft said it is moving full stee urs 98 as planned — with feternat Explorer included. The womeous gid as pussed — with internal supposed included not make operating system in sides in the second quarter. Company officials and they have no plans to change the design and claim that sure year court order would apply only to ficensing issues. "If they have to strip [Euplower] and of Windows 95, it will represent a big challenge for Microsoft," said Milin Cartesburg, as cent a big challenge for Microsoft, "said Milin Cartesburg, and yet and the Cartesburg of the Cartes

coming soon to a Web site near you

By Skaron Machlis

SEVERAL MAJOR companies plan to roll out chat-based cus tomer support on their World Wide Web sites next quarter, letting users type questions and get answers from support stuff The idea is to bring tele

phone-like immediacy and personal contact to the Web. You've got to keep moving forward and find ways to give our customer a new experience [ordine]," said Bill Karsh, presi dent and CEO of National Discount Brokers (NDB) in New York, which expects to start testing a custom-designed chat

Real-time customer support chat

product within the next to days. Although less expensive than inventional call centers, such systems are more costly than ventional Web retailing, in which consumers typically must answer their own questions by surfing through a site

"One of the problems with (chat-based customer support) is it's very expensive," said Erica Rugullies, an analyst at Giga ormation Group in Cambridge, Mass. "I don't think it

But Karsh sees chat as a tool

that will help build customer loyalty by offering users personal endance to find data they want on the NDB Web site. With so many players in the discount electronic brokerage business, Karsh said, it is important for a company to differentiate itself. "How do I lock up that [customer) relationship?" he asked.

Today, the cost of switching as not very high. Symantec Corp. plans to offer chat-based support in February for Norton AntiVirus, accordproduct specialist at the company's Eugene, Ore., office. There will be an as-vet-undetermined charge for using the service, which is expected to include all of Symantec's software lines.

In its civil contempt com

plaint the department asked

that Microsoft be required to of

fer PC makers the option of li-

censing its most current version

of Windows or with the Internet

scon and Internet browser re-

moved similar to what would

result if a user activated the un

install utility. It also wants the

company ordered to allow the

government to review specifica-

tions for new operating system

and browser releases to days be-

Desnite the outrage at the lus-

tice Department, PC suppli

seem content to bundle the two

products, claiming that users

want it. Many users, meanwhile

appear not to care whether the

fore commercial release

The Cupertino, Calif.-based ompany uses software from Business Evolution, Inc. in Princeton, N.I., that features one to one chat technology able to split a browser screen. On one part, the customer and service representative conduct a real-time online typing session; on the other, the repres can "push" information from a

Web page or Lotus Notes docu-Du Pont Co. is starting to defor software from Busi Evolution internally to hold virtual meetings among employees at different locations

ing to Michael Gelardi, senior After the internal tests, Du Pont expects to experiment with chat customer support on one of its consumer Web sites, such as that for stain-resistant carpet. "There is a straight-to-the

bottom-line savings if we are not picking up a charge for a 1-800 call," said Robert Ford, global information technology leader for Du Pont external affairs in nington, Del. And, he said "it's much richer content than when you're working your way through an automated tele-

But Kate Dovie, an analyst at Jupiter Communications, Inc. in New York, said IBM's recent partnering with Business Evolu tion is a significant move for the rket. "It's really heating up a lot," she said. "I think there will be more experiments with chat in '98."D

If you look closely,

you can almost see your

competitors crying.



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Memo from St. Nick

FRANK HAYES

TAB IS MANAGER: Sorry for the form letter, but it's busy up here at the North Pole. I'm still back-ordered on Tickle Me Elmo dolls and Ninten-

do 64, and now I can't tell how many Giga Pets and American Girl dolls we've got. This new inventory system in no replacement for a dozen elves with quill

But Santa's bad news for all you good little IS man gers is that I won't be able to deliver on all your requests this year. Everybody's asking for the same things, and I can't even find a source for half this stuff, much less put it under your tree.

I'm not saying you'll get a lump of coal Internet itself No can do. That kind of

- I'm just trying to manage expectasafety doesn't exist on the wild frontier of tions. So here are the items that seem to be on everyone's wish list: A year 2000 fix you can put in place by Rogers six-shooters. If it makes you feel the end of 1998. Ho, ho, ho, If I could

cure the millennium bug. I'd be a big-

bucks consultant, not climbing down

But what you really need now is to con-

centrate on the year 2000 proj-

ects that still have a prayer of

making the deadline and cut

out the ones that don't. So for

all that cutting, this year it's

Ginsu knives for everyone!

saded systems and the collapse of the

But I've got a warehouse full of Roy

any better to be packin's pair of cap pis-

All you good little IS

chimness for a living

All the employees IS needs — at affordable salaries. Been sniffing laser printer toner again, haven't you Look, your days of easy staffing are gone, gone, gone, From now on, your new hires will likely be procey and nam But in case you want to experiment, I'll

tols, pardner, they're all yours.

throw in a Do-It-Yourself Cloning Kit as a stocking stuffer. Hey, if it works for sheep, why not for Cobol, Java and Visual Basic peogrammers? Vendors who cooperate with one

another and with their customers. I'm s jolly old elf, not a miracle worker. Tell you what, though - how about a pair of ringside tickets to a street fight between Mike Tyson and Latrell Sprewell? If all your ven-

does followed the example of these two centle souls. managers are asking for well, come to think of it, that the same things this year. New cando. is the example they follow. New golf clubs. This we

Better lines of com users. You want lines of communication Here, have a cell phone. Take five or six - they're small. I got millions of these things, 'cause everybody's giving them See, having lines of communication is cheap. Where it gets costly is actually

using 'em. You're going to have to pay your own phone bill - and you'll have to pick up the tab if you want to keep talking with your users, too

A clear return on every IS inve Yeah, right. My accountant Mort fell off his chair laughing at this one. Mort can make any project show a loss — and so can your critics, if all you depend on is numbers. You need political leverage.

So here's a box of cheap cigars. Add a nice how and a card with your loudest critic's name on it, and voils! A New Year's present for the boss. Sure. it's sleazy sabotage, but that's what those critics are trying to do to you, right

Less stress, fewer projects that fall and enough breathing room to make plans. Whaddaya want, early retirement? All that's left in Santa's sack is running shoes - and you'll need 'em.

A year-end close that runs clean. OX. just this once. But treasure the simple pleasure of no Abends. Once you put your year 2000 fixes into production, it may be the last trouble free close you have for a while. Season's greetings

Santa Hayes is Computerworld's West Coast hurcou chief. His Internet address is frank

Clinton signs E-copyright law

President Clinton signed into law a measure tha makes it illegal to possess or distribute multiple copies of online copyrighted material for profit or otherwise. A person willfully infringing on copyrighted material worth more than \$4,000 could be presecuted under the No Electronic Thaft Act. Scientists had urged a Clis-ton veto, arguing the law could stant the free flow tion on the Interset. But software make and musicians said it would prevent wides

IBM/StorageTek deal OK'd

The Department of justice approved the 1996 main-frame disk system OEM agreement between IBM and rage Technology Corp. in Louisville, Colo., after an 8-month investigation. The deal, which was stated to expire in 1999; made 18M the sole market and saller of StorageTek's mainframe disk technology. The two companies celebrated the decision by extending their contract agreement through 2000. The move allows continued joint development of the Ramac Virtual Array. The Justice Department was inv er the deal would hurt competit and storage market.

AOL wins spam settlement

ice Online, Inc. wou a battle with Over the Air Equipment, Inc. in Las Vegas over the company's send-ing unselicited electronic mail to AOL subscribers. ong unsecured secremon: mai to AUL subscribers. Over the Air Equipment agreed to stop sending the messages advertising sex-eriented World Wide Web sites and to pay damages, according to AOL, but nei-ther company would discuss the payment figure. AOL said it also has sued Squeaky Clean Marketing and Cy-

SHORTS ber Services, both in Dollas, Ga., for spamming its

Internet innovators honored

G. Cerf and Robert E. Kahn last week received the National Medal of Technology from Presi-dent Clinton for their dedopment of the protocol that gave rise to the inter-net. Cerf, a vice president at MCI Com Corp. in Washington, and

Kahn, president of the National Corporation for Re -h Indistives in Reston Va., worked on TCP/IP



regulatory, rather than legislative, approach to gove ing the availability of personal information online. The mission's report said that many major com engaged in online dissemination of personal infe tripm—so-called lookup services such as Lexis-Nexis— have agreed to adhere to voluntary restrictions on mak-ing personal information available. The restrictions ould keep Social Security numbers, unlisted telephone numbers and credit histories out of the gen public's view.

letscape: Just trying to help

tscape Communications Corp. teday is slated to pro-information to Windows 95 users to make Naviga-

tor their default Web browser. The offer comes as a federal judge, acting on a Department of justice com-plaint, ordered felicesoft Corp. to stop integrating its internet Explorer brawser with Windows 95 — for now, at inset. Buttons on Nettocape's Web site will instruct users how to make Netscape's Nevigator their browser, how to descrive internet Explorer as the default browser and how to uninstall internet Explorer.

hayes@ou.com

Holiday rush hits E-mail carrier

AT&T WorldNet was the latest major Internet seri provider to run into an electronic-mail bottleneck, which it attributed to the Christmas holiday rush. A surge in volume last week caused delays in receiving E-mail, though members could send mail, the firm said.

EDS inks deal with IBM

Electronic Data Systems Corp. in Plane, Texas, has en-tered into a five-year toffware Econolog deal with IBM for 51 billion worth of mainframe, Dita database, Lotus Notes, Trotal and other software. The contents has the potential to generate \$1.5 billion in revenue for IBM.

SHORT TAKES 18th subsidings Threel Systems, these, said it would not be capain the Winter Arthetry, lines, as in thompsoffers have been a finding policy based in the capain the Winter Arthetry, lines, as indiamental to the complex of the capain the capa SHORT TAKES ISM subsidiary Threst Syste

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Call centers call for help tracking messages

De Mart Manie

THE CUSTOM SE may be king, but some companies' customer service systems unintentionally treat customers like mud.

With customers expressing themselves by telephone. fax, electronic mail and the World Wide Web, tracking and responding to all those messages "is definitely an energing problem for organizations" "said Center I. Lusher an anobest at

tions," said Carter J. Lusber, an analyst at Gartner Group, Inc. in San Jose, Calif. "With so many pipes into an organiza-

and companies can't manage it and provide efficient levels of customer service," he said.

Finding a solution will be a major concern of large companies in coming years, is according to analysts and network man-

agers. There are 200 vendors in the field, and the \$277 million market should

quintople in five years. Lusher said.

Mike Davis, senior manager of customer systems engineering at Paging Neirosck, Inc. (PageNet) in Plano. Teass, agreed that there are increasing demands for call centers as they become the focal point for all customer contacts. PageNet is embarking on a one-year study of its customer response system needs. "Our

goal is a happier customer and to support outbound selling," he said. MCI Systemhouse in Washington and Fleet Bank Corp. in Boston recently up-

graded their call centers.

Carlson Wagonili Thorel in Fort Lau
derdale, Fla. is also undergoing an up
grade, due to be finished neal Septembler
to statist 15,000 travel agents worldwide
by making customer histories available
more quickly to agents, the company
expects to cut in half the number of keys
strokes made by agents while taking reservations, said Dick Smith, sendor vice
unveildent of information technology.



PageNet's national call center in Yexas handles thousands of calls each day with 300 agents who manage questions from major carriers such as MCI Communications, Inc. — as well as millions of consumer pager customers' calls. Earlier this year, PageNet began wock

with Chordian Software, Inc. in Palo Alto, Calif., to implement Chordiant's Customer Communications Solution in a portion of its call center. Carlson Wagonile Travel also is a Chordiant user. Chordiant recently released Version 14 of the software package, which, either

through Windows NT or an enterpriseclass JavaBeans platform, allows multiple customer interactions. That way, a customer service agent on a phone call can access recent E-mail and the customer's profile from a database.

Software vendors such as Chordiani have "huge potential" for growth as the call center becomes more of a "customer interaction center," said analyst Elizabeth Ussher at Meta Group, Inc. in Res-

Analysts said Chordiant brings all the customer contacts to a front-end customer service agent. It is the only vendor so far to integrate systems in a packaged way at the back end, analysts said. II

MON IS IT THAT TINY MAGNETIC RTICLES SAN BE POWERFUL ENDUGH

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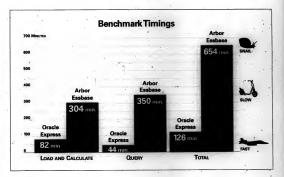
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CA SHADS HD Al developer

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u as add-on services, h

Lotus uses Web to help trap bugs

▶ Push service will target, notify users of bug fixes and technical patches

Rv Bark Cole-Gomobki

LOTUS DEVELOPMENT CORP is beta-testing a service it will use to push bug fixes and other technical patches to users via the World Wide Web

Users applauded the proactive approach, saying that get ting updates automatically might prevent downtime and belo them better plan for up

The push service could also result in savines for companies that pay for support on a perincident basis, said Dennis White, technical support analyst at Thomas & Betts, an automotive ports manufacturer in Clinton Township, Mich., that uses Lotus Notes, "It sounds like we could avoid making some of those technical support calls,"

The free service, to be rolled out in the first half of next year. initially will be incorporated in Lotus' enterprise-level support package, which costs \$199,000 per year. Down the road, the serrice will be rolled out at no extra charge to customers who subscribe to the less costly Passport support plan. Lotus officials

VARGETING USERS Customers can already down-

load software fixes from the Web and ask questions in Webhosed discussion groups. However. Lotus' push service will identify customers who may encounter a particular problem based on their environment. The vendor will automatically deliver information, alerts and

HOW PUSH SUPPORT WORKS

Each enterprise support customer is given a personal

When a bug fix or patch is issued, Lotus determines if an enterprise customer could benefit from the fix

Applicable fixes are automatically pushed to the customer's personal Web page

bug fixes to personal Web pages set up for each custome "It's a creat idea." said Dennis Murray, head of cornorate technologies for the clinical development and regulatory af fairs division at Novartis Pharmacruticals Corp. in East Hano-

ver. N.J. The company will roll out as,ooo Notes seats by the end of next year. Instead of having to react to bugs and glitches, companies could be alerted to problems before they crop up. Murray ooted. The service also could help sites

plan better for upgrades by indicating which fixes pertain to them. lo additsoo, it could help sites make better use of their information systems resources by avoiding unnecessary upgrades and fixes

"Frequently, when a software company does a bug fix, customers really don't know if it applies to them," said David Marshak, an analyst at Patricia Sey-

bold Group to Bost The service could also take some pressure off Cambridge. Mass based Lotus, which saw its technical support calls double to almost a million last year as the number of Notes seats but nearly 18 million, according to prevention," he said. But not all users think the push plan is a panacea.

"It presupposes that somewhere in Lotus or IBM, they have an accurate profile for your company," said Steve Haggerty, a consultant at Ernst & Young LLP in Los Angeles, which has more than 40,000

Notes seats. Happerty said it would be better for users if Lotus would make more technical informa tion available on its Web site in a searchable format.

Lotus offers such a service through its Knowledgebase online offering, but Haggerty said it can take a while before fixes to reported problems show up there (1

Jim Krzywicki, vice president of worldwide customer support and education at Letet. focus for 1998 is to shift to Room for improvement

is Lotus support really improved? It depends on where you ask. "I have seen improvements in terms of the time it takes to g rough and in terms of the answers they have," said Stove

support at Johnson & Higgins in New York, "the Impro-support) has been minimal." He said that although it in

easier to get a live person on the line ten "just don't have the answers." An IS manager at Smithtline Soo sam Con An is manager at Smithstane Beachers Consumer Health Can in Crafflen, Pa., and date has nected that "the quality of the ap-part personnel has gone up." But whether you get a fast and socu-rate answer depends on the person you get on the belephone an-the application, who said.

Jim Krzywicki, Lotus' vice president of workfurde customer sup-

from a range of 10 to 12 minut

Customer service is getting better, Krayericki said, i company has added 400 support people and 65 auth

port providers.

David Marchek, an analyst at Putricis Seybold Gr
But perhaps more important, he said, at that support
gir at Johns. "They now view it as semesting that imp
lationship with the customer," he said. — Barb Cele-C

Schwab bolsters Internet effort under flat-fee plan

By Thomas Hoffman

IN A PRONTAL assault against the full-service brokerages that handle 85% of the retail stock trading volume in the U.S., Charles Schwab & Co. next month will holster its Internet stock trading system with added investment research and guidance services under a new flatfee payment plan.

The move was designed to help Schwab hare more customers away from full-service brokerages such as Merrill Lynch & Co. and Prudential Securities. Inc., both in New York. The

company also is trying to further dietance itself from online trading firms such as ETrade Group. Inc. and DLJ Direct, Inc. Under the plan, Schwab's re-

tail customers will have access to all brokerage services - telephone, branch and online - for \$20.05 per month for up to 1,000 shares and 3 cents per share thereafter.

The atrategy is expected to help Schwab tighten its stranhold in the online trading market. And the company stands to save millions of dollars by moving thousands of branch and phone customers into cy-

berspace, where transaction nencessing can be done at a fraction of the cost and Octavo Ma renzi, a research director at Meridien Research, Inc. in Needham Mass

Schwab "has figured out that Internet transactions cost a lot less, and they're trying to push customers in that direction," Marenzi said.

Between 30% and 40% of Schwab's transactions are electronic, he said. The company claims to have ta million online accounts, which represent less than 25% of its 4.8 million total accounts. Two-thirds of the

computer, and 60% have Inner-

Bill Burnham, an analyst at Piper Jaffray Cos. in Minneapo lus, said Schwab's actions were the result of two factors: a need to resolve customer service is sues by eliminating two-ties pricing for trading services, and a reaction to recent online trading price cuts by Fidelity Investments. Fidelity. Schwab'a bigpest discount rival, cut its online

for Burnham said [7]

trading prices twice in the past six months, from a range of \$80 to \$100 per trade to a flat \$19.95

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· SPARC future uncertain

Sun joins OS rush to Intel's 64-bit chip

By faikumar Vijayan

decision to port Solaris onto Merced - the 64-bit chip being developed by Intel Corp. and Hewlett-Packard Co. - should boost the portfolio of enterprise

The move also has created some uncertainty about the long-term future of Sun's successful SPARC-based hardware Merced, the first implemen tion of the IA-84 chip architechave is Intel's shot at enterprise computing. Apart from a significant boost in raw performance over current IA-12 chips - Merced will start at around 600 MHz - IA-64 is expected to be able to run both x86 and Unix applications equally well. Systems based on the chip are

expected to scale from low-end workstations to multiprocessor enterprise servers, offeri nearly the same raw perfe mance as Unix servers and

64-bit, nor will it offer the same scalability or availability that Unix will when Merced ships.

he said. Mountain View, Calif-based Sun and Intel in Santa Clara. Calif. last week entered into a technology and patent crosslicensing agreement that calls for Sun to develop and deliver

OPPING ON MERCED

Operating systems that will be supported on Merced	
Vender	Operating system
Microsoft	Windows NT
Howlett- Packard	HP-UX
Digital	Digital Unix
Sun	Solaris

an optimized version of the 64bit Solans for Merced. Last mosk's alliance means

usees can standardize on Merced architecture with security knowing that they will have an operating system environment that will meet (most) of the enterprise needs they have," said Thomas Kucharvy, president of Summit Strategies, Inc.

Typically, for example, if Intel users today want to scale beyond a certain point, they need to move to RISC-based Unix systems. In the future, the expectation is that they will be able to stick with Merced even if they want to move to Unix It also "makes for a better ar-

gument that there is an alternative to Windows NT, especially at the high end of the Merced space," Kucharvy said And Unix users, who have long been tied to proprietary Corp. in Burlington, N.J.

ton Cost Factory Warehouse The reason why we have been a Sun shop for such a long time is the excellence of the Sol aris operating environm and not necessarily their hardware." Prince said. For that reason, "I for one would like to see Sun sell Solaris on Intel boxes." he said. [7]

RISC technology, will have the flexibility to move to cheaper Intel hardware, said Michael Prince, MIS director at Burling-**Eclipsing Sun's SPARC**

Porting Solaris to Merced could expens Son's SPARC-based he ware business — where it made most of its S&6 billion in revenue last year — to direct compatition from intal wendors, according to

That's he That's because SPARC-based Selaris systems will be more naive than Marcad-based Selaris systems that offer the sa formance, particularly at the low and and midrange, analy-

per, said Rax Hays, a design engineer in the advanced pr Eastman Kedalt Co. in Rechester, N.

o. in Rochester, N.Y. ably force Sun to ab don its SPARC platfo

Apps give users tools to fight macro viruses

THE BANDWAGON Microsoft Corp. has already al lied Windows NT with Merced. calling the technology its stratec enterprise development plat-em. Other Unix vendors com-

mitted to porting their operating systems on to Merced include HP. Digital Equipment Corp. and SCO, Inc. Sun's alliance with Intel adds

to the number of solid enterprise-level operating syst that Windows NT will have to ete against on Merced said Tony Jams, an analyst at D. H. Brown Associates, Inc. in Port Chester, N.Y. 'This is significant because NT will not be

PELATEDISMES

MACRO VIEWSES are becoming more prevalent every day, but there are ways to thwart the bugs before they invade your systems and networks.

Thanks to the Internet, macro bugs, which invade systems by hiding in Microsoft Corp. Word. documents and electronic-mail attachments, are proliferating at an alarming rate.

In fact, the top four viruses are the macros CAP. Concept. NPad and Wazzu. They account for 41% of all new yors infortions, according to Virus Bulle-tin Ltd. in Oxfordshire, England. But many newer versions of operating systems and applica-

tion software have built-in defense mechanisms To date, macro viruses

haven't destroyed data or crashed networks. But businesses must still expend time and money to disinfect their netorks, and users suffer through downtime. That process can cost a company thousands of dollars and hours of lost productivity," said David LeBlanc, senior Windows NT security engineer at Internet Security Sys-

terns, Inc. in Atlanta. Antivirus makers and software vendors such as Microsoft have responded quickly.

Microsoft's Word 7.00 and 8.o. for example, give users the option to prevent any automatic macro programs from running. Those packages also let users wipe the macro off the docu-

Symanter Corn. in Cupertino. Calif., just introduced the Norton AntiVirus for NetWare A.o. package. It incorporates the company's Bloodhound-Macro technology to identify and eradi-

This new defense against macros is crucial. LeBlanc explained, because the bugs are capable of far more complex and pernicious activities than their

VIRUS EFFECTS

ros hitch a ride on larger whicles: document files like E-mail attachments and spreadsh for expense reports. And because macro viruses hide within Word documents and E-mail attachments, they inherently have all of the user's access rights

and privileges," he said. DEFENSIVE MEASURES Users' first and best line of de-

fense is to install virus scanning software and uperade to newer versions of operating systems and applications. Alter administrators should down load the latest patches and fixes. But even the best preventive measures won't totally eliminate same infections

We're proactive in doing daily virus scanning and weekly checks on our networks and we still got hit by the Concept macro virus," said Kurt Guerrero senior LAN architect at Northern Trust Co. in Chicago.

struck by the Monkey and NYB boot-sector viruses. They infected 100 user desktops before they were detected We had to lock those you us. ers out of the network. Then our

took a crew of 20 people work-

upgraded to the latest software id antivirus packages. Last spring, the bank was also Jeff Dazell, LAN adn tor at Dana Corp., a Toledo, Ohio, auto parts manufacturer

with 45,000 desktops, agreed. Forewarned is forearmed. We scan everything on a regular bosix and check all the latest virus network administrators had to bulletins and bug track lists to manually clean up all 150 PCs. It keen shower The natural I care may be my own," he said. [1]

ing five hours to disinfect every

thing. That was 100 manpow hours and cost us \$4,000, not including user downtime, Guerrero said, "A malevolentmacro virus could make the boot-sector viruses look mild. Six months from now, we could be faced with a totally destruc-To minimize the chance of me currence, Northern Trust has

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sticks and leaving thousands of The last thing victims need as to sit amid the wreckage and wait days or weeks for their in-

A TORNAON tears through a small Southern town, tossing about mobile homes like matchsurance company's claims ad-Why should a customer wait two weeks to get an

answer when we can get it to them in two minutes?" - Shawn Hahoney,

Foremest Insurance

Foremost Insurance Co., a mobile home insurer based

here, is trying to beat its customers and competitors to the punch, petting agents to customers in need before they have to call for help.

And the company is making it work using New York-based Information Builders, Inc.'s Web-Focus, a server based reporting and analysis tool designed to give any user on the enterprise a link between the corporate intranet and databases. "A lot of times there's nothing left where then

home used to be and what's left is difficult to en, senior vice president of information systems at Foremost.

Before, it might have taken days or even weeks to get the needed information to our claims adjust.

ers, and that's just too long Now they can go up on the Internet, find out where their customers are, find out if they're going to need extra help and do otter customer service.

SPREADING IT OUT Foremost, which has written \$350 million worth of insurtake some of the weight off the four people who had been doing all the queries for the claims ad

ance, started using WebFocus to justers. Now 56 people throughout the organization - whether they are claims adjusters, marketers or executives - make 70% of those queries Why should a customer wait

two weeks to get an answer when we can get it to them in two minutes?" said Shaun Mahoney, head of IS at Foremost. "If there's an earthquake in California, our agents can get on the road and find out what ZIP codes have been affected and then calculate the value of those homes we have insured what the losses will be and bow many agents are needed."

And because agents have been empowered to make their own queries. Mahoney's four workers now can spend their time adding information to the data warehouse, grying agents more to cull from

Fran Osean, an analyst at International Data Corp. in Framingham, Mass., said Foremost is using the technology to differentiate itself in a highly competltive market.

That's a customer service claim they can make that most insurance companies cannot at this point," Quinn said. "It raises the bar, and that's what all this technology is about. It's not about being cool on the Web. It's new ways to provide value to

Boshoven agreed and said customers are giving the firm higher customer service rating The bottom line is that the technology helps us to understand the losses better and helps us underwrite and price better. If you can't get at that information quickly, right at your fingertips, then you're behind." D

DG tool offers centralized Delta flies with Feld view of Windows NT data

By Tim Osellette

WITH BUSINESSES bring Windows NT servers into the enterprise fold, data center managers are clamoring for tools that centrally manage all thes distributed data

So Data General Corp. next month will ship Navisphere storage management noftware that can monitor distributed pools of Windows NT and Unit data one point.

The software lets users are and track data by business function across multiple disk arrays instead of organizing data based on its physical location.

For example, marketing data

could be scattered across several disk systems in the commony. - But Navisphere gives users an aggregated view of the mar-keting storage pool and tracking metrics such as access levels and response times for that

Demand for enterprise-level disk systems for expanding Windows NT installations has skyrocketed in the past year International Data Corp. in Framingham Mass estimates that sales of external disk arrays

for Windows NT servers grew 80% this year. Navisphere runs on a Windows NT, Windows 95 or Sun Microsystems, Inc.'s Solaris

initially, it will manage any of DG's Fibre Channel disk subsystems, including the FCsnon Series due in January By about midyear, the package also will support DG's SCSI-

sed arrays, said Mark Vargo. visphere marketing manager at Westboro, Mass-based Data General. And ut the future, interfaces could be added for Navisphere to track data collected om other vendoes' disk arraws.

Other Navisphere features inchade automatic problem notification to information systems staff and the shility to pass statistics on to other popular network and systems management

Pricing hasn't been determined. O

plus financial and administrative support to launch a learning center for CIOs

The center's curriculum will include real-life IS case studies drawn from Feld's experiences as CIO in the early 1990s at Dallas-based Frito-Lay, Inc. and subsequent temporary CIO stints at several other Fortune 1.000 companies through his consulting company, Irving. Texas-based Feld Group

Most recently Feld served as temporary CIO at Burlington Northern and Santa Fe Railway Co., where he orchestrated the development and implements tion of the world's largest, realtime integrated rail manage-

ment switers The system was cut over in July. Shortly after, Feld moved on to do some consulting work at Delta, with plans to launch an IT leadership center at his Texas

ranch early next year COULDN'T PASS UP When I left (Burlington North

ernl. I truly believed that would be my last mund at being a CIO," Feld said. "But what Delta came up with is a win-win opportunity. They get a CIO for a couple of years, and I get economic support and a living lab oratory for an IT leadership cen-

ter, which has been my dream. Specific details regarding how and where Feld will offer his IT leadership courses have yet to

be worked out. But Delta has agreed to provide financial and administrative support so Feld and several principals from his consulting group can design case studies from their experiences at Delta In Atlanta, Feld has beenin to

reorganize Delta's IS group by simplifying job descriptions and creating a team of 40 ts diese. tors, who will serve on an IS leadership council. One of his biggest challenge

he said, is rebuilding the morale of Delta's IS staffers, who have been shifted around quite a bit

in the past few years. In 100s, the airline's IS employees moved over to Trans-Quest, an IS joint venture and outsourcing contract Delta had entered into with AT&T Corp. But last year, AT&T sown of its outsourcing business, and TransDisest became a Delta sub-

ourcing IS "was very stressful and very disruptive for the organization," said Paul Matsen, Delta Technology's CEO, to whom Feld now re-

One of the first things Charlie identified for us was the need to establish a leadership team and leadership development. What we agreed is that this can become a working model for him to develop his ideas for his [CIO] institute," Matsen



Network integrator offers one-time service pricing

By Patrick Dryden

AUT NOW, DON'T PAY LATER. That's the new option for financing a network, performance monitoring service from integrator International Network Services, Inc. (INS) in Sunnyvale, Calif.

The move improves the ability of INS

The move improves the ability of INS to compete against vendors of analysis and reporting tools. And it helps information systems groups overcome financial barriers to specialized outrourcing, industry analysts said.

INS hits a roadblock when it comes

time to close a deal with 1S shops, said Richard Berwer, an analyst at International Data Corp. in Framingham, Mess. "It's easier to buy a CD than to subscribe to a service," Brewer said. "It's tougher to apply an operational budget spanning multiple business units than a central purchasing budget under direct



"More than 150 large organizations subscribe to EnterprisePro, a turnbey service by which INS engineers maintain a datagathering server, analyze myriad statistics and deliver World Wide Web-based reports that explain network perfor-

reports that explain its recovery personmance in business terms.

INS now offers the same service in product form. That means users can finance EnterprisePro once from a capital badnet instead of navine a recurring ex-

pense from an operating budget.

"Up-front pricting will help enterprise IS groups who want to own products for accounting purposes or because they sky away from outsourcing," said Eric Hindin, an analyst at The Yankee Group in

HEW STRATES

The new licensing approach is a "more attractive procurement option" that opened the door at Becton Dickenson Immunocytology Systems, Inc., said Lori Arashiro, manager of network operations in San Jose, Calif.

INS should be able to overcome the sales barrier that prevented about 30 or gamizations from adopting EnterprisePro in the past year, said Mark Bouchard, an analyst at Meta Group, Inc. in Westport, Conn.

For example, users who pay about \$9,000 per year now to monitor between 30 and 50 network devices would pay a little more than \$77,000 to license EnterprisePro, plus a small monthly

terrance for

"A 'productized service' is an innovative and appealing approach to outsourcing. But be cautious about the uncertainty factor inherent in all outsouring deals," said Frank Cassile, executive director of Outsourcing Institute

Ltd. in New York.

Make sure the license that replaces a contract spells out service levels and contains appropriate termination clauses typical of outsourcing relationships, he

When priced as a product, Enterprise

Pro competes with the Network Health suite from Concord Communications, Inc. in Marlboro, Mass., analysts said.

Inc. in Mariboro, Mass., analysts said.
"INS' long term goal may really be to
entice the carriers to buy and customize
EnterprisePro, as they have done with
Concont'a tools," Hindin said. II



Introducing Universal Directory. The first tool to help users search, understand and take full advantage of your data warehouse.

Data wavehouses and data marts. In theory, an incredit

Out how do you encounting uners to actually use the wayshouse? Help them understand what is there?

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Universal Directory" is an information directory that gives users an easy-to-use "Velow Pages" about your warehous its powerful search engine lets users find onderstand and

time advertage of information assets wherever they may reache. Helping thermuse the

For your IS team, Universal Directory speeds washouse development and management. Owing you a certifial place

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Lage mone-co. As representative of tags where the Lage form of





A peek inside the elite Research Board

Only handpicked CIOs from companies that have annual sales greater than \$10 billion are invited to join the elite group The members - currently 48 men and seven women - are privy to what they claim is the most sophisticated and forwardlooking research available on in-

And the member CIOs collectively wield more than \$15 billion worth of IS buying power

nomics degrees from MIT and the London School of Economset, so the analysis is beavy on

The style of the reports is pethy The goal is to put technology in a larger business and economic content which is exactly what the member CIOs said they like. This isn't about 32 meg vs. 64 meg (of PC memory) This is

three reports per year - one be fore each formal meeting The reports are guarded like

classified government documents They are hardbound books, 70 to 100 pages each, on topics the CIOs vote on every

So highly regarded is the research that Dennis Jones CIO at Federal Express Corp. in Memphis rips up his schedule the day a report arrives so he can spend two or three hours west.

The Research Board is "the only outside forum or research group of any kind that I make time to go to," lones said

Several members said the Research Board's reports are inthe board's budget or other fisightful, free from vendor bias and consistent in identifying trends up to a year before other st occupies, the Research Board s privately owned by Seligman. consultants do

For example, a 1993 report titled "Invisible Hands" correctly challenged the notion that client/server was a cheaper architecture than mainframe computing, even before client/ server systems had caught on generally "There was a gut feel on our

part that (client/server) wasn't cheaper, but we couldn't news it," said June Drewry, chief knowledge and technology offi cer at Lincoln National Corp. in Fort Wayne, Ind. 'Theirs was the first good, solid research I could get my hands on." Drewry is a member of a sister group called the Associate Board

Ralph Szygenda, CIO at General Motors Corp., said he consoli dated the company's vanous subscriptions for market research from companies such as Gartner Group, Inc. and For rester Research, Inc.

But he didn't touch the kitty for Research Board member-

TIGHT-LIPPED

Naoms Seligman wouldn't disclose the annual membership fee which sources estimated at \$10 000 to \$70 000 per person. She also declined to discuss

Research Board co-founder

ing volumes nor a full member ship toster. No current or former members returned calls to talk about the board until they got the nod from Seluman. We are not secretive " Selig

man insisted Rather, the Research Board staff builds "close relationships" with members in which discretion is entical, she

Several CIOs and Revenerh Board reports have triggered major changes to their IS plans ower the years New York-based Merrill Lynch & Co. became a bug user of Sun



The company also runs two sis-

ter groups, one for CIOs at

smaller companies and one for

The Research Board has some

mombers CIOs can't cond sub-

stitutes to neetings. And meet-

man don't include golf games or

CIOs in Europe (see charf).

social outines.

ers or braggarts.

The CIOs are ex

pected to talk intelli-

oently about business

strategy and must

thoroughly read the

report before the dis

In fact, one CIO

was asked to leave the

board a few years ago

for not following the rules "He did not

Everyone, she said, is expect-

Among outsiders, the board

has a reputation for being tight-

friends of mine who would

show me [their own] company

plans and documents" said Pe

consultant and Computerworld

columnist. "But I've never seen

Indeed the board won't re

lease a copy of any of its 7a exist-

ter G. W. Keen, a managem

a Research Board report.

ed to keep Research Board dis-

ons confidential.

heecd Several members are good

but discretion is critical. - Naomi Selieman. co-founder. Research Board

Microsystems, Inc.'s Unix serv ets, in part because the board in Like the New York townhouse the early 1000s based Sun as an up-and-comer, said former Mernii Lynch CIO DuWayne 64, and Ernest von Sumson, 59.

We may have musted that though at Marrill of their hada's helped me sort it out," Peterson

strict rules. Vendors can't be ATTRACTION That kind of influence means

vendors salivate to make presen tations at Research Board meet

This is serious business. The This kind of access is pretty three all-day, coat-and-tie sesfantastic," said Scott McNealy sions each year are ngorous CEO of Mountain View, Calif. affairs They aren't for wallflowbased Sun. "They are exactly who we're trying to sell to." He



The board speaks more powerfully than any single

- June Drewry, Lincoln National

read the reports and talked a lot. said he also attends to hear what It was a dreadful combination," the CIOs have to say.

But the CEOs of software and hardware firms may address the board only when invited. And they dare not bring any hard ware or software to show off. In its 24 years, the board has allowed but one product demon stration: the Macintosh in 1984.

This year, the idea of network computers was addressed by CEO heavyweights Bill Gates of Microsoft Corp., Larry Ellison of Oracle Corp. and Jim Barksdale of Netscape Comm Corp., amone others. A highlight of the meetings is

when the CIOs get to grill the

they say is the most sophisticated research available on IS

So when the board summons Ball Gates, Scott McNealy or Larry Ellison to its highbrow meetings, the vendor CEOs

come running. In the samplest terms, the Research Board publishes analytical reports and holds meetings to discuss them. But these aren't ordinary analyst bulletins, Several of the researchers have eco-

merly the CIO at Royal Bank of knowledge management.

The board's a8-person staff

strategic," said Ken Smee, for-Canada in Toronto and a fiveyear weteran of the board. Smee recalled that be wouldn't buy Lotus Development Corp.'s Notes. for example, until he had "absorbed" the board's report on

has 12 researchers who publish

sessions, which can sometimes be con-

In one case a few years ago, the CEO of a major software maker was invited to

pany's service and licensing terms. Jones ecalled. After a "tense" discussion, neither side budged lones said the upshot was that mem

Added Marty Lippert, Royal Bank of Canada's current CIO, "Here are 40 or so representatives of the largest purchasers of technology in the market. If you're not going to listen to us, what in God's name would make you change your mind? one potential customer." she said. [3]

The board speaks more than any single CIO could. Lincoln National's Drewry agreed The vendors have a desire to maintain a relationship with the board. There's no To bell with you you're only



ard meets was built in 1910 and is ed by board founders Naomi inmen and Ernest von Simson

Beyond tech talk



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Server consolidation a tricky affair for users

By Jackumar Visavan

SERVER CONSOLIDATION May sound like a great way to cut operating costs and centralize management of midrange Unix and Windows NT servers. However, immature software partitioning capabili-

ties and the relative lack of workload management tools could make such consolidation tricky, said researchers at Meta Group. Inc. in Stamford, Conn.

The issue is becoming more important now that more firms want to centralize or consolidate distributed servers. Motiva-

tions include reducing management complexity, cutting maintenance and sys tems costs, and better leveraging under used server hardware [CW, Aug. 11]. Consolidation brings with it the abili ty to feel like you are back in control" of analyst at D. H. Brown Associates, Inc. in Port Chester, N.Y.

But it also "can open up a whole oew cadre of complexities" in performance management issues and sharing of resources such as tape drives, storage disks, peripherals and memory said Terry Cseslak, chief technology officer at May & Speh in Downers Grove, III.

The information management services company is consolidating applications from five Hewlett-Packard Co. servers onto one large Sun Microsystems. Inc. server. Cieslak estimated the move will save the company about a half-million dollars in management and administra tion costs over the next five years

Server consolidation involves taking multiple applications running on several servers and loading them onto a large server. Success depends on how well par titioned the multiple applications are on the consolidated server

A few high-end Unix boxes - such as Sun's Ultra Enterprise 10000 and IBM's SP - are being positioned as consolidation servers. Those machines offer users a way to virtually partition the servers to

handle multiple applications. Despite the performance offered by such servers, Unix generally can't offer the same levels of flexibility or robust ness as traditional mainframe based soft ware partitioning. "It is really a question of the capabilities needing to mature" a bit more in the Unix space, Cieslak said. For instance, putting a data warehouse

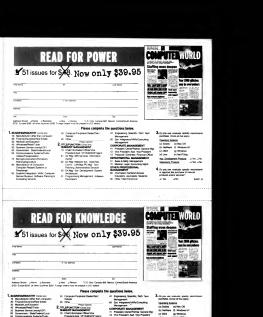
application and an online transaction processing application on the same server could degrade server performance. The degree of performance tuning and rkload management possible within 5 mainframe still aren't available on Unix said Meta analyst Brun Richardson. Reconfiguring workloads on a consoli-

dated Unix server is more difficult than doing it on a mainframe. Similarly, most Unix systems lack the same global I/O and peripheral management capabilities as a mainframe environment such as MVS, analysts noted

Hugh Allan, database administrator at Dunloo Tire Co. in Amberst, N.Y., said top on his list of reasons against consolidation are performance tuning issues and the hassles involved in upgrading







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Computer Industry

Briefs Cabletron plots turnaround

► CEO Reed's plan will expand product line, improve distribution and lead to acquisitions

CABLETAON SYSTEMS, INC.'S new president and CEO. Don Reed, today is expected to outline a turnaround plan that calls for broadening the networking vendor's product line, diving in to the acquisitions market and boosting Cabletron's relation-

Cabletron three weeks ago warned Wall Street that its 1998 third-quarter sales would be off by about 10%, declining to between \$150 million and \$140 million compared with \$161.3

million a year earlier. The company last week an nounced it will lay off 600 workers - nearly 10% of its workforce - and will close several manufacturing facilities as vice providens part of an overall company re-

structuring. Glenn Gabriel Ben-Yosef. president of Clear Thinking Reearch. Inc., a Boston consultancy, said Cabletron's main challenge is to move the 25% of its user base that is on the compam's legacy shared hubs into the

Reed is addressing that issue

with a plan to expand Cable-tron's product portfolio to further embrace the wide area Reed also is expected to an nounce plans to step up the poof acquisitions. Cabletron has been criticized for keeping a

tight hold on the purse stris it has bought only six smaller firms. Its competitors have gone on a buying speec, acquiring many more companies. But that champed Nov. as when Cabletron bought Digita Equipment Corp.'s Networking

Products group in a deal value at \$400 million ICW Dec. 11. Other initiatives include re wed emphasis on Cabletron's Spectrum enterprise wide management platform and a bigs presence among Internet ser-

Reed also will detail plans to expand Cabletron's relationships with distributors through newly announced deals with Ingram-Micro, Inc. in Santa Ana, Calif., and Tech Data Corp. in Clearwater, Fla., a company spokesman said.

Analysts said buowed by the moves "I like Don Reed and his strat

ompony: Cabletron Systems, Inc. worters: Rochester, N.H.

yees: 6,800 worldwide (before lavoffs)

ma. Recal 03 1990: \$330M to \$340 ared with \$36IM for the same quarter last year

Predicted earnings per share: 8 to 12 cents

. Plans \$25M to \$30M pretax charge for fiscal Q4 1998

· Will close plants in Nashua, N.H., and Andover, Mass

. Will lay off 600 employees worldwide

cay to revive Cabletron," said Bill Becklean, an analyst at the oston investment firm of Tuck er Anthony, Inc. He said Cabletron's model of direct sales and few acquisitions no long works in an interpretworking market dominated by Cisco Systerns. Inc. and 3Com Corp., between them have bought three dozen smaller

"Reed seems to be attacking oblems head-on starting wit ilding an indirect channel. dating the five New En-

end manufacturine facilities trimming the workforce and getting their list prices more in se with street prices," Becklean said. "I believe Reed has the ability and the will to make the necessary changes. Ben-Yosef said be, too, is built ish on Cabletron - with a few

"They still have some gaps in their product portfolio. They need high-speed routing products, and they should conacquisitions in this market." he

good products out and not have to worry about whether their technology will be used in the broad market," said Gree Weiss.

said fi

Microsoft/SGI ally on 3-D graphic apps

By Jaikumar Viinyan

outine arena

SILICON GRAPHICS, INC.'S (SGI) alliance with Microsoft Corp. will eventually give users access to fast, high-performance three-dimensional graphics applications on commodity Wintel

In the short term, the alliance between two of the industry's most influential graphics players will give third-party soft developers a common standard and large installed base at which to target their applications

The alliance, announced last week, calls for both companies to develop and deliver new graphics technologies based on Microsoft's Windows NT and SGI's Irix - a version of Unix

SGI's Unix-based errephics

considered among the industry's best. But its market - especially at the low end - has been coming under increasing pressure from low-priced Winone NT workstations

The past few years have also seen a rapidly growing number mon base to write for, "it sort of of third-party vendors porting means they can focus on getting

cations over to NT. Such pressures recently pushed SGI into announcing that it will start ufacturing Windows NT-

Because the new alliance gives software vendors a com

HEATING UP

SGI/Microsoft Convention account will produce

se Graph API: Will provide high-level data structur

a hold of the SGI graphics li ed workstations next year.

an analyst at D. H. Brown Asso ciates, Inc. in Port Chester, N.Y. Microsoft also wanted to get orary. It certainly is the most re bust and widely supported in the industry," said Thomas Kucharvy, president of Summit Strategies, Inc. in Boston

Code named Fahrenheit, the alliance will create a common state of application program ming interfaces (API) that com-Microsoft's Windows based Direct₁D and DirectDraw APIs with SGI's Unix-based

OpenGL technologies Deliverables include a low level API for consustaer and commercial' graphics applica tions on Windows, a higher level API based on both Win ws and Irix and a large model Of course we can

protect

your information

on the

Internet.



of everyone I meet lately, making me feel aly under siege. Of course I haven't finished

ng yet! On a scale of 1 to 10, my degree of es is hovering at about 3. Listen, I tried that Internet shopping hoo-ha we've

been hyperventilating about in the press, and it's a time-sink nightmare. I dare you to try and find a plaid bathrobe on the

L L Rese Web site without losing your mind.

And I haven't even begun to work my way down my ta-year-old's fully annotated list, which fills two

pages of lined notebook per, front and back, every line. (I ask you: Is a minirefrigerator for her bedroom normal gift request?)

So in a frantic effort to dis tract myself from the hostility that I feel every blessed time some idiot asks me that question, I've come up

with a few questions of my own. Instead of the *12 Dave of Christman," consider "The 12 Questions Not To Ask Your CIO During the Holidays."

1. In that wer 2000 conversion still on schedule? 2. Her. loss much in that Oracle stock plunge?

s. You really think NT will scale up to to.ooo users? 4. Was that our SAP project manager I saw lunching with that headhunter?

C. Keeping up with your E-mail?

6. We're really rewriting the payroll system in java? 7. Geer, is it true the new webmaster forged his work papers and is only 15 years old?

8. How come the help desk doesn't answer the phone

q. How's that installation of Lotus Notes going? so. Who arrived those national committees to replace

11. Did you see our home page today? Do you think those backers were serious?

12. Was that the CEO I saw waiting in your office? He's got some guy from EDS with him, and they were shaking hands . . .



to get hot and bothered about nu-

bile young women at Comdex

somehow discrediting women in

IS. We would hardly think of them

It falls in the same

category as the Hoo-

ters waitresses, where

women choose to pur-

sue a certain line of

work that leverages their

personal assets. How

does anyone know that

these women don't en-

joy what they are doing

just as much as any IT

professional would? I

hardly think they have

been enslaved for this purpose.

to represent their companies at

Comdex with the booth bimbos

continued and accepted says vol-

umes about the state of perception

I think it's too soon to call the

battle won, and I'll bet that a

good number of IS women would

Eric I. Smith

Slingerlands, N.Y.

cahondo@capited.net

in a portion of the IS community

The very fact that this practice is

would be a good example.

Senior vice president and CIO

Starbucks, Inc.

'Booth bimbos' don't reflect IS women

FELT MUCH BETTER about the presence of booth bumbos after read Gary Anthes' column [* 'Booth bembos' - women in IS? Poppwcock," CW, Dec 1).

I've been in high tech since the early 1980s and have noticed that while the presence of booth himbox is not as blatant or expansive as it was in the 'Ros, they are still

And I have wondered, as Laura DiDio noted in her original column on this subject ("Booth birmbo bingo," CW, Nov. 17], what my male co-workers and other attendees think of me when they en counter these beautiful yet mindless momen in what should be a business environment rather than an entertainment venue. It has made me extremely uncomfort

able at these trade shows Anthes' perspective, which gives men credit for seeing past the stereotypes, made me breathe a huge sigh of relief. It's the answer to a silent question I've had for many years. Thank you. Linda Vande Vrede

PID Corporate Communications Рессии lands, vandeverde@psd.com

ENJOYED GARY ANTHES' OPINION piece about the 'booth bimbos at Comdex. As he astutely pointed out, there is no shortage of quality, intelligent women in IS I was fortunate enough to be featured earlier this year in Computerworld, and I think your publication goes out of its way to feature commentary and input from a variety of excellent IT professionals - many of whom just bappen to be women.

I don't think L or any woman in

Why does it cost more to buy Macs direct online? my peer group, would have time N YOUR NOV. 17 article "Apple

to sell direct with online store; users wary," you say that "resellers can still cut the price of an Apple computer sold online by as much

as \$500." What am I missing Not many women heer? I thought on-

line sales - directly from the manufacturer eliminated the middleman and reduced a lot of overhead that would nor-

mally be absorbed by the customer. Why is it more expen-

sive then? Is this akin to the way banks want to charge their customers for using an automated teller on the sidewalk, while the same banks offer the same services for free from a paid human being inside a building that's taking up a huge

Jacques C. Kaufman Burghamton, N.Y.

ers shouldn't exceed 200 ds and should be adsed to Maryfran Joh tive Editor, Comp id, PO Box 9171, 500 Old necticut Path, Framinger: (908) 875-8951; Inde

FOUND GARY ANTHES' STA concerning Laura DiDio's col-umo on "booth bimbos" at Comdex to be somewhat flawed. chunk of prime real estate Obviously there are men (and maybe some women, tool who can't see past outdated stereotypes: The people who made the decision

is namon onu

ımdex discredit

ikawiman@spectro.net eterworld welcomes ents from its readers

resh

Paying with personal information — yours Emily Frye

oncern about loss of personal privacy has grown in recent years until it has become a cliche: We are losing our privacy! It's true that a lot of in-

formation that used to be private is now widely available

— on the Internet, in databases and elsewhere. Sometimes the data gets converted into forms we don't recognize. like when

it's sold to advertisers who solicit us with offers for products we don't want. Some people feel that's a violation of their per-

sonal space But maybe we're losing some of our privacy because we don't really want it. Why would I say that? First, let me

personhood

draw a distinction between privacy and A lot of people seem to fear that sharing personal information is equivalent to a loss of personbood — that is, their personality, their very essence. I disagree

bad for us to lose some privacy is to look at a common example of how personal data enters the broad stream of commerce

Let's say I want to read The New York Times but not buy it. I could either trek to the library, or I could access it from home - as long as I surrender some information about myself. including my name. E-mail address, ZIP code, age and sex, on an electronic form

One way to illustrate that it isn't so

you. If you don't want others to know your name, address, hobbies and purchasing habits, then you don't have to give them up. You can structure the contract - because that's exactly what it is, a contract for services - some other way. Your "payment," whether in the form of money or infor-

mation, entitles you to a service (the I think we're troubled by payment in the form of personal information because it isn't as clear-cut as a fee-forservice arrangement. When I stop paying juno.com

money, the Times stops delivering the paper to my doorstep. But if I stoo reading the Times online, it still has my information

I suggest we look at that exchange as a one-time, lump-num payment contract. When you pay for a TV set, you have no idea what the seller is going to do with the payment he's received. And you probably don't care. Presumably, you have weighed the risks and benefits involved and have decided that the use of the television is worth the loss of the

Personal information is a little more. well, personal than money But the ques-Is it worth it? That's up to tion is the same: Is the good you will receive worth the price you're being asked to pay? If so, then you will "buy" the

And if the price is personal information, we're smart enough to decide for ourselves what information we are will ine to let fly into the stream of commerce - just like we decide when to let go of our dollars and cents. D

Frye is an Evenston, Ill., attorney who spe cializes in Internet security and electrons commerce. She can be reached at efrye@

merce that Cisco is doing. But, hey, do

you think that number will go down?

Steve Jobs doesn't think so. Apple's foray

The trend is toward making the Web

the dominant marketing medium for hardware, software and service distribu-

tion. The Web blurs distinctions among

marketing, promotion, design and distri

butson. Customized PCs get bundled with leasing plans; diagnostics and ser-vices get bundled with online software

distribution; IP telephony gets bundled

In effect, the Web becomes the com

with PDAs, cell phones and laptope

into direct distribution seems to be go

Is the price worth getting a newspaper on the 'net? hat's up to you.

through various media - even if those bits included my banking habits, purchasing patterns, grocery preferences and hobbies - would be a pitifully inadequate representa-

A legal analysis of the personal privacy issue won't please folks who think of privacy as an emotionally charged fund mental nehts assue. I'm one of those fundamental rights people, too, when it comes to medical privacy. But regular All the bits of personal information that someone could gather about me old, run-of-the-mill data3

Prediction: Billg will have to watch his back Michael Schrage

itual "predictions" columns are perennial fun. Practically everyone reads them, but hardly anybody has the time, stomach or inclination

to remember what was forecast. You've gotta love an industry running on Internet time! By Maybe Intel announces that all of its the time we're all partying like it's 1900.

1998 will feel like three years ago There are, of course, the easy arid obvious predictions that should come true even if they don't. For example, sometime this year HP and/or Sharp should introduce a PDA device that lets you easily scan text from a newspaper article in to your handheld, annotate it with a virtual Post-It note and E-mail it to a friend

Then there are the wildly irresponsible speculations that fuel hostile rumors, but ter recraminations and furnous accusations of unprofessional behavior. Those

Let's just say that Andy Grove and the intel gang are sick and tired of bille@microsoft.com calling the shots in the digital kingdom. They decide to use their silicon to stick it to Microsoft in a way that preserves the Wintel disopoly emen so it extends Intel's reach once de er into the Internet telecosm. How so?

selling themselves on the Web but microprocessors will be canable of runnung native Java. Because it's in silicon. Java gets the processing speeds programmers crave. Yes. Pentiums will still

run Windows qx and Windows NT, but from now on, they'll also support the Sun-standard lava What's billg gonna do? Tell Andy to buzz off? Buy Intel? Suddenly, Netscape, Sun, 18M and Oracle all have very good reason to play race with Intel Intel lever ages its dominance in the silicon mar-

ketplace to make Microsoft a partner rather than a peer, Intel becomes the global standards-setter, not Microsoft. Microsoft's good news? Janet Reno goes

Could it happen? Of course! Will it happen in 1998? Well, pretend you're Grove. Do you want to become more dependent on and interdependent with Microsoft Or do you want to create other platforms for global innovation that better leverage your architectural and marketing expertise? Tough call, no?

But enough irresponsibility. For another sure-fire 1998 trend, we needn't look any further than Microsoft, Dell, Apple and Cisco - which aren't just

are rebuilding their business models There's Microsoft under the antitrust gun for integrating Explorer with Windows to the point that soon it may not be clear where Windows ends and the Web begins. Federal courts will have to

Intel get sick and tired of

billa@microsoft.com1

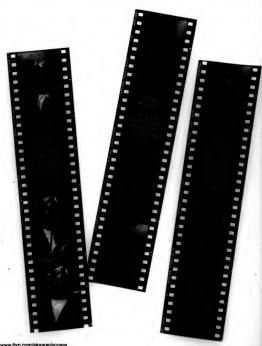
Ower in Austi there's Michael Dell selling more than \$3 of customized PCs each day over the 'net. Yes, that's less than the \$1 billion in an nual electronic com





stational Cuisinart and digital deli that enables new forms of busi ness bundling and pockaging for these (converging) industries. For the past two years, the Internet has been about communications, infor mation, community and data. New year will redefine the Web as the medium for making money via marketing, distribution and co derign, D

Schrage is a research associate at the MIT Media Lab and outher of No More Tenma! His Internet address is schrage@media.mit.edu.





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Outsourcing requires up-front work by users

By Thomas Hoffman ORIANDO, FIA

A NEW REPORT CARD designed to measure the success of large outsourcing contracts has found that customers — by their own admission — should have done a lot more up-front research

before they signed on the dotted line. Nevertheless, 200% of customer CEOs interviewed for the report card said they would out-

source again.

The IDC/TBI IT Outsourcing Study," released at the DCI
IT Outsourcing Conference
held here earlier this month,
was based on interviews with
nearly 50 CEOs and chief information officers at customer
companies and account man-

International Data Corp. (IDC) in Framingham, Mass., and Technology & Business Integrators. Inc. (TBI) in Woodchiff Lake, N.L. oo-soomseed the report card and talked to executives at big outsourcing customers, such as Xerox Corp. in Stamford, Conn., J. P. Morgan & Co. in New York and United Technologies Corp. in Hartford, Conn.

The ruilitation of expected cost savings and management results of Xerox's \$1 billion legacy systems management contract with Electronic Data Systems Corp in Plann, Teass, has been "mixed," said Jagdish Dalal, former wice president of information management at Xerox Dalal oversaw Xerox's outsourcing relationship with EOS, for three years before he left the document company a year ago He is now a partner at least and the property of the proper

Price Waterhouse LLP in Stamford. Dalal said the EDS contract let Xerox management focus more on developing applications to support new products and services. That focus contributed to Xerox's shareholder value, whereas cost savings from outsourcing didn't, Dalal

The IDC/TBI study found

By Thomas Hoffman

WITH DESEGULATION Stoking competition in the utility industry, customer service "will be the deciding factor for customer eterotion." said Bob Hansen, director of customer service at Con Edinon Solutions, a wholly owned subsidiary of Consolidations.

ed Edison Company of New York, Inc. in White Plains, N.Y. That's why many utilities are rushing to replace their decrepit cus

systems (CIS) — used by customer service representatives to assist customers with questions or problems — with client/server-based systems that are more flexible at accepting rate and

stentible at accepting rate and other changes.

Because speed to market is critical for utilities replacing their customer service systems, many players are opting for offthe-shelf offerings from vendors such as SCT Utility Systems, loc. in Columbia. S.C. that

Inc. in Columbia, S.C., that often can be installed in a few months. In-house development efforts, modifications to existing sys-

transactions per week in the

peak period just before Christ-

mas. And the addition of more

tems or highly customized systems built by Big Four consultants such as Price Waterhouse LIP in New York can take years, said Carter Lusher, vice president and research director for customer service support stratesies at Gartner Group, inc. in

ly San Jose, Calif.

Third-party systems from venw dors such as SCT and Scopus
Y. Technology, Inc. in Emeryville,
re Calif. usually are much easier
to modify than

TOMER most legacy appliRVIGE cabout, user componies and analysts said.
Take Bangor Hydro Electric
Co., for example. The Maine
utility went live with SCT's Banner system in June. On its old

d 4381-based DOS/VSE mainframe system, Bangor Hydro s needed 200-plus man-hours to g make and test changes in elec-

With Banner, "it takes us two
minutes," said Shawna Giguere.
CIS project manager at the utilits, which serves 110,000 cus-

tomers.

Bangor Hydro now offers only electric services but is in Utilities, page 36

Harrison renews legacy apps

'Quick and dirty' project aids marketer's growth

By Joiksumer Vijupon

sussuccown response times. The
ability to handle 5 million calls

per year. More than 200-008.

It has been a little more than

Harrison Direct, Inc. these days.
It has been a little more than
30 months since the 'Chattanooga. Tenn-based direct.

Barrison, page 36

IMPROVING TIMES

Company: Harrison Direct, a provider of direct marketin

Objective: Improve call-response times and increase

Apprendic Retain investment in existing mainframapplication code while moving to new client/server

estment: \$2.5 million

esult: Subsecond response times, increa

WHERE IS SPENDS Top three technology Investments

- Today

 Communications
 Infrastructure
- III LANs and office systems

 II internet and online
 commerce systems
- in 2000*

 Ill internet and online commerce systems
- Infrastructi

*Projected Base: 150 IS professionals

STOR ECHN MAD

"This won't work with that! That won't work with this! How do I even use this?" Go ahead and scream. (We do.) The vely we see it, computing we've always looked at things from a simpler point of view. Open network computing, And that's et to ideas like our Jama's technologies. The

THE)LOGY VES

should be as easy as eating, sleeping, and everything else you do without a second thought. Which is why more open computing gets, the easier it'll get. And the same life will get. THE NETWORK IS THE COMPUTER.



CONTINUED FROM PAGE 32

the early stages of trying to set up a joint venture to provide gas in California. Even though a

gas pipeline probably won't be built and available in Maine until 1999, Bangor Hydro will be ready to support new customers. in the greater Bangor area with its \$7 million cus-

tomer service evetem, Giguere said. Multiyear lead imes for CIS projects "aren't acceptable at all," said lanet Haller, man-



Evansville. have to be able to make changes in weeks, not years."



widespread deregulation is expected by the end of next year. For Southern Indiana Gas. that means being able to itemize billing charges on one state ment, something that "was virtually impossible" to do by

gramming its 30-year-old Cobol CIS, Haller said. The legacy system was so inflexible that Southern Indiana Gas had to maintain several accounts for large commercial customers. aking it more expensive to process than one

big account, Haller Southern Indi-

ana Gas is phasing in the Banner ovetem through the third quarter of next year. The Unix-based system. which the commany is installing on a Digital Equipment

Corp. Alpha server, will spit out a sinturnmer rate of customer sergle bill for cusvice representatives hovers at an% to 25% in the utility in-

tomers whether they subscribe to cable television, electric or security services - services from different utilities. More the utility hopes to offer in

the future.

Still, a shift to client/server from decades of mainframe computing can be problematic as Cincinnati Water Works dis-

At the same time the utility was converting its homegrown Unisys Corp. mainframe system to a Hewlett-Packard Co. HP-UX-based Banner platform. it was having trouble trying to merge IBM AS/400 data from a sister utility, said David Raper, director of Cincinnati Water

The utility solved the conversion problem by assigning four people to test small amdata. The team was able to match 80% of the customer accounts automatically but still had to match another as,ooo accounts manually, Rager said. Nevertheless, the Cancinnati Water Works' \$8 million investment in the Banner system has worked out well. Because the

dustry, the city agency wanted a system that would help it reduce its training costs. The customer service staff needed two weeks to learn the

Unious system but only three days to train on the Banner anplication, Rager said. (1

Outsourcine support

one SCT will let Cale Editions Improve its continuer so on quickly, feature flam mount rivals that are just onto

T's SinglePoint Salutions group less to meet nome ; also performance tends and by Con Edison. For eases I calls that order the call center have to be assured and or less. That is about helf the stone meet remain

Outsourcing

CONTINUED FROM PAGE 33 that there is "lots of CIO

wer' following mega outsourcing deals, said Susan Scrupski, an analyst at TBI. One bank in the study has had seven CIOs in the past seven years, Scrupski said.

Also, most of the customer executives interviewed said they are going through a continu process of renegotiating their eals. That stems from poor follow-through by customers ring the contract, the need to add or amend performance metrics or the need to react to changes in user comp business needs, said IDC anahest Lies Main Dose

FMC Corp.'s three-year LAN and desktop outsourcing deal with IBM "hasn't worked out ton well." said Chris Slachta. outsourcing customer service namper at FMC's chemical products group in Philadelphia.

Slachta, a conference attendee, said that is largely because FMC failed to identify the different functional needs of its accounting, human resources and other departments and spell those out to Bur Blue. Slachta said IBM officials we complained to her that FMC's lack of desktop and net-

working standards make it tough for them to support the pany's environment. When Stachta approaches FMC's IS management on the standardization issue, "they don't want to hear about it," said Slachta, who joined FMC in September. "I feel like the middle of an Oreo cookie." Slachta said. "It's

a mess " As the IDC/TBI study revealed, many outsourcing deals are laden with problems. But most are kept quiet because "no one ever talks on the record out problems with their deal said Daniel R. Mummery, a ertner at Milbank, Tweed, Hadley and McCloy, a New York

law firm. D

Harrison CONTINUED FROM PAGE 33

marketing company implemented a migration from a mainframe environment to a Unixbased one Since then, Harrison Direct's ability to handle transactions has more than doubled, its call-

response times have been more than halved, and the number of internal call center users has nearly tripled. And the company has retained most of its investment in the original mainframe-based

application code "It helped us take on new [clients] and grow our business in a way that was completely foreclosed to us prior to the change," said for Dresnok, ident of Harrison Direct. The company has added three

its client list, making 18, he Privately owned Harmon Direct provides direct marketing catalog and order-fulfillment services for several large clients including The Coca-Cola Co., Hershey Foods Corp., the National Baskethall Association and The Reader's Digest Asso-

ciston Inc

As far back as 1993, the high volume of consumer transactions generated by those ser vices via both telephone and mail had begun to seriously tax the old IBM 3083 mainframe that handled most of Harrison Direct's processing work,

With the old system, cu tomers sometimes had to wait on the above for up to five me utes for Harrison Direct's batch processing system to accept their orders, Dresnok said.

Overall, it was a difficult site ation. 'We were being held hostage to the response time" of the mainframe, Dresnok said After a particularly trying time during the 1993 Christmas sea son, the company decided to move its applications to a Unix based online transaction processing system

"Initially, we looked at a nur ber of packaged software alter Fortune 1,000 companies to natives that would provide all the direct marketing functions in one package," Dresnok said. The company failed to find any thing that met its cust application needs, he said. Also, moving to packaged

software would mean having to abandon the "several hund of thousands of dollars' the company had already invested in mainframe CICS applications, Dresnok added.

Harrison Direct decided to powith transaction processing and nslation middleware Phoenix-based UniKix Technologies. UniKix's software bav allowed IBM CICS/ Cobol and DB2 applications to be ported to Unix systems with little change to the underlying dication code

UniKix provided a series of porting utilities, which allowed errison Direct's Cobol applications to be transferred between the mainframe and Unix enviunents. The software came with utilities that allowed source program migration, data file mi-gration, a table manager utility and a language translator that converted CICS statements into a format compliant with Unix

With UniKix, "you can use the same (application programmine interfacel that you use to build a CICS application to build a Unix application, said Nick Goll, an analyst at Meta Group, Inc. in Stamford, Conn "It's sort of a quick-and-dirty

approach for moving applicas from MVS to Unix." Golf said. D

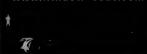
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The Internet

Electronic Commerce + The World Wide Web + introducts

Briefs

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Re Leura DiDia

CHASING RIVALS and trying to slow the rising cost of doing haviness with travel agen America West Airlines, Inc. ear her this year began selling tick-

ets on the World Wide Web. Tickets sold on the 4-month old site cost America West 70% less than those sold through travel agents and are never lost or stoles

And the site lets consumers book reservations themselve usually in less than two minutes, said Bill Spilman, Ameri ca West's senior director of product distribution. Phoenix-based America West, one of the nation's top 10 air-

The sirline flies to go desti ations and specializes in low cost fares mainly to leisure trav-Online ticket bookings

"are increasing 50% each month, and our revenue is

un 10%." - Chris Hartman.

America West elers, said Chris Hartman, the airline's distribution analyst. "Southwest' Airlines and with 11,000 employees and an-United Airlines were the first Jairlines online), and now just nual revenue of \$1.7 billion, is

about everyone is doing it. Air nes can't afford not to do busi ness on the Web. It saves them money and saves consumers time," said Bob Sakakeeny, an analyst at Aberdeen Group, Inc.

"It's an absolute necessity for any airline that wants to stay competitive and provide cus tomers with the latest information on available flights and spe-cial discount fares any time of the day or night," Spilman said. *Doing business over the Web lets us cut the price of generating a ticket to about \$4. By contrast, it costs us about \$15 to book a passenger reservation on our 800-number phone lines." Hartman said Web-based

Online booking, page 40

CHARITIES ONLINE

Nonprofits find funds. help on Web

By Wylie Wong

IF APPLE COMPUTER, INC. and Barnes & Noble, Inc. can look at the Web and see dollar signs. the American Red Cross figures it can, too.

*People motivated by a current disaster can instantly donate and send money via the Web, said Jane Pratt, manager of the Red Cross Web site (www

redcress.org)." With Internet commerce on the rise, nonprofit organizations and charities are flocking to the fledgling medium.

Their goals, however, aren't just to collect donations. The World Wide Web also is a cont-effective way to find new volunteers and educate people about an

organization's mission. To commemorate AIDS Day, for example, The NAMES Project Founds lier this month posted the AIDS Charities, page 40

Calif. utility's Web site fuels energy decisions

By Carol Slipe

customeas, can auy just about anything over the Internet, so why not ensem?

To deal with competition creeping into a deregulated market, the largest natural gas distributor in Southern California has launched the "Energy Marketplace" World Wide Web site to belp midsize and small commercial/industrial businesses and residential customers

weigh their purchase options. The Web site was designed to satisfy requirements by the Calrnia Public Utilities Commis sion that Southern California Gas Co. (SoCalGas) expand its troduce competition into the market. But the company also wants the site to attract new

W IT WORKS Customers simply log on to

swer some questions about eir energy needs and set a deadline for the gas suppliers to reply. When the time is up, customers can check out the bids, mark the winner and wait for the supplier to call them on the

The gas comes from suppli-ers that, for the most part, are in other states and Canada.



Gas, the monopoly distril chose the suppliers. Now, customers must select suppliers in ich the same way that they select a long-distance telephone

We wanted to facilitate cus-

Before deregulation, SoCal-tomer choice by reducing trans action costs for suppliers and by providing an efficient means for customers to link to suppliers," said Eric Baty, business infor mation manager at SoCalGas in Los Angeles.

Utility Web site, page 40

SHOPPING THE 'NET

at people are buying culine



•

ONE: INSTALL DUAL-SPEED HUB. TWO: KISS YOUR CONSTANT TRIPS TO THAT WIRING CLOSET GOODBYE.

Introducing the inclusity farm portional autoensing duelegated standards field. 10Me/r/1 100Me/r/1 8 desern't mother Verwort's mole your choose. Frankle migration is but one of the advantages of the Company healthquere 2724 and 2828 high. Regardelphy institution were usual paligned principles in understand.

And, like all autocalan's booker Medialized reprisent, which make for the fore exprisinguistion with witness reverse you have in your bear.

5010, when't is conversation about obvioustages if your don't had show manay, right? To start, our hadro reduces labor counts. Because of integrated 10/100 connectivity, our had converts your will outlet into callife, 36 you don't have to write a write or locate every time someone more or opposites to be player speed. In Software previous provides a first the converts your office, which were the valid belong from the 100Me/r, which, in elect, cold helps you share-provide your network. And it cann show the some a 100Me/r, viely had, in the end, you have a but the does the world in one plus the boost of SNMP, BMON and Company Neelligard Monogeneer's Software. Because Company is the world's number one computer saffer and is connitioned on the some as a continue of SNMP, BMON and Company Neelligard Monogeneer's Software. Because Company is the world's number one conserve start and it connitioned to be used to be conserved to the continue of the software of the control of SNMP, BMON and Company Neelligard Monogeneer's Software. Because Company is shown that would not the control of the c

COMPAQ

Charities put Web to good use

remorial Ouilt - all 43.000

Scott Croft, online syst Project. Because people und and donations to design and maintain their sites. The U.S. Marine Corps Reerve's Toys for Tots Program (www.toysfertets.org) found its

of operations.

war. Mantin

Earlier this

his book /ava for Dummics, ublished by IDG Books, a ny of Computerworld the site The soft-

ware company LAST BLAST OF GOO spends about \$100,000 per war to maintain the Web because people are in a givi site, said Barbara Mikolaicrak Mantie vice president

"We get a little burst toward the end of the year," Pratt said. Web receipts range from a "handful" of donations at some charities to about \$100,000 per

ceate the 50th anniversary of year at the Red Cross As a result, some nonneofits add a boliday flair to their Web sites. The Volunteers of America recently launched a Sidewalk Santa Web site where children

can write letters to Santa (uww sideanli-sonte cert

RADVIEW SOFTWARE, INC., has

announced WebLoad 2.0, a

hits during the holiday season in December and about 100,000 per month during the rest of the year, Mantis officials

The toy donation program, which collects 8 million town per year to be distributed to needy children, wouldn't have had a Web site without the vol-

unteer work, said Retired Major Bill Grien of the Toys for Tots And the NAMES Foundation couldn't have launched its online AIDS Quilt without grants.

Sun Microsystems, Inc. donated a server: Informix Software. Inc. donated the database software; and Masterlink, Inc., a Bay Area Internet service provider, hosts

Charity officials say they gener ally receive more donations during the holiday season - partly mood and partly because De

cember is the last chance for a

"It's a fun place where kids can go and people will hopefully be drawn into the warmth of the site and the stories being told about the program," said spokesman Steve Abbott. D

Online booking CONTINUED FROM PAGE 37

bookings account for 0.4% of America West's total revenue, though company officials expect that figure to rise dramatically in the next two years to at least

10% of total revenue Hartman said the lure of online ticket reservations has become so attractive to com that America West is "doing

about \$200,000 a week' in Web-based sales with very little advertising. 'The bookings on the Web site are increasing 50% each month, and our revenue is

AMERICA WEST AIRLINE

The Effortless Ticketing Online service is based on Attach mate Corp.'s Extra Airline 1.1 customized airline reservations

best of all for the consumer. there's no more waiting on hold," he said And the Transaction Server lets us handle large volumes -

Office suite. It uses the Secure Sockets Laver Protocol 2.0 for

dows NT and the BackOffice

products partly for their features

and partly because Microsoft.

which aggressively campaigned

for the airline's business, sweet-

ened the deal. "We became a

Microsoft beta user and in ex-

change we got discounts on NT.

BackOffice and Microsoft tech-

The site will let users check

flight information and book

reservations. The Transaction

Server 1.1, running in the back-

ground, performs the necessary

funds, billing

and adds

verification

transaction.

prior to com

pleting the

Spilman said

The process can usually be

completed in

minutes com

pared with five

to to minutes

(via the tele

phonel And

under trino

nical support," Spilman said.

security America West chose Win-

software running on Microsoft we get 40,000 hits every day." he added. D

Corn's Windows NT and Back. Utility site fuels decisions

The Web site also provides a

ens for ch

up 10%," Hartman said.

suppliers to look for customers. Baty said. Most consumers aren't familiar with patural gas suppliers, so suppliers general-ly had to spend between \$200 and \$300 on sales calls, faxes mailines and advertising to attract one customer, Baty said. This is going to get it down

into the \$10 or \$30 range for accessing those customers, Baty predicted. That means lower prices for end-use customers because of the lower transaction costs."

SoCalGas also benefits. If customers can buy gas more cost effectively, gas prices drop and gas ususe becomes a more attractive option.

*An Internet-based frequest for proposals| system is the eassest way to let the largest number of customers test their op tions and connect with bidding suppliers," said Barton Taylor, a senior analyst of energy industries at Roston-based Abendeen Group, Inc. "It also gives SoCal-Gas a wealth of information about customers' energy needs and usage patterns, as well as an early lead in establishing itself as the interface for energy

SoCalGas makes money from the site by charging gas suppliers a monthly subscription rate to be listed with its service.

Three developers and two staffers from the business side of the house needed less than three weeks to get a prototype of the sate working. They needed just two months more to get it ready for production using NetDynamics, Inc.'s application development tools, said Steven Durflinger, project manager at

the Energy Marketplace site On the back end, the group used Web servers from Netscape Communications Corp. and an application server from NetDynamics running on a Unix server from Sun Microsystems, Inc., with a Sybase, Inc. database. D

panels of it - on the Web remaidequilt org). "It's an incredible tool to hele as spread the message that AIDS is not over, and we still have a lot of work to do," said administrator for the NAMES

angel in the form of a lava book author. About two years ago.

Aaron Walsh, president and CEO of Mantis Development Corp., a Boston software develas have the highest incidence of opment company, decided that HIV infection, many high he needed to create a Web site school and college teachers acthat uses fava. He wanted to use it as an example for

cens the NAMES site to teach kids about safe sex. Croft said. The Web helps bring the message bome to people who wouldn't otherwise see the quilt. Croft said

"I was awestruck by the site and sat here quietly in tears read one recent electronic mail message to Croft from a Web

For-profit companies can af-ford to sink millions in to a Web site, but cash-strapped charities often seek volunteers

redesigned the site to commem-Town for Total Walsh sometimes spends several days a week updating the site with the names of Toys for Tots coordinators whout the country This holiday season, Mantis

is marketing the site by getting free banner ad space on the home pages of Internet search engines such as Excite, Inc. and

Yahoo, Inc

As a result, the Toys for Tots site generates about 1 million

PRODUCTS

MOVERA SOFTWARE INC. in Borlington, Mass., has announced Epic 2.0, an all-lava application development and

server platform that integrates with existing database and host-based applications. The tool is used to build and manage pure-java enter-

prise-level applications that are accessed via World Wide Web browsers. The new version supports the Common Object Request Broker Architecture. It costs \$150 per concurrent

(781) 270-4422

FUJITSU SOFTMARE CORP. has announced NetCobol, software to deploy Cobol applications on Web-based systems According to the San Jose

Calif., firm, the Cobol compiler can generate pure Java code from ensting legacy Cobol programs

It costs \$750. itsu Softwa (408) 432-1300

performance evaluation tool for Web applications. According to the Mahwah, N.L. firm, the tool lets users test the efficiency of World Wide Web sites by simulating conditions such as traffic loads in the thousands

Pricing ranges from \$2,500 to \$25,000 depending on the number of simulated users. RadView Software

(888) 723-8932

FROM THE EDITORS OF

COMPUTERWORLD SECULT 21, 11, 11

'Instant' Intranets

Shrink-wrapped products can get you an intranet for under \$5K. Just be sure what you need.

By Alice LaPlante

hris Stevens is delighted with the popularity of his instrument. And a manager of nervous contraction of the contract of the contract of the contraction of the contract of the contract of the contraction of the contract of the contract of the contraction of the contract of the contract of the contraction of the contract of the contract of the contraction of the cont

Easer the meant toxone.

For performs, neglects and administrators who wast to post afficiation group question or discriminate cours to post afficiation group question or discriminate cours and post of the performance of t



'INSTANT' INTRANETS

Continued from page 1 nects to our network, we'll support it." Stevens says. "But our hope is that

WebZerver will make our users pretty independent of us. Stevens and WebZerver are not

alone. As the 1997 intranet market is expected to double over 1996, from \$6 billion to \$12 billion, according to Zona Research, wordors of all shapes and sizes are jumping into the departmental niche. Their "instant intranets" are targeted at the smaller group or even enrite company - that wants a quicker, easier, cheaper intranet than has been available until now. "The intranet novice market is wide open and virtually untapped," says Barbara Ells, an analyst at Zona Research.

Various options are emerging: ■ Stand-alone units with peoprietary operating systems that attach directly to the corporate network, such as Web-Zerver, Compact Devices, Inc.'s Twister, Weberonics, Inc.'s WebBox or Bay Networks, Inc.'s Instant Intranet. Cost: \$1,295 to \$2,700 (see page 10) ■ Software packages that can be installed on network servers or desktop PCs and integrated into larger Internet or extranet efforts. Prices here: mostly in the \$2,700 to \$5,000 range. Upcoming services from relecom-

munications company/Internet service provider/software company partnerships that offer soup-to-nuts intranets for \$10 to \$20 per user MCI has announced Enterprise Network Solutions in conjunction with Digital and Microsoft; Lotus and Netacape now have packages: expect similar offerings from the likes of AT&T, Oracle and Sun.

Most of the hardware and software offerings, however, are not ready, made solutions for all issues. For some, expandability might be a problem. Others aren't for novices. Indeed, says Tim Sloane, director of Internet research ar Aberdeen Group, Inc. in Boston, most of these products will go toward supplementing, nor replacing, corporate intranet efforts. As they do

with Stevens, they will increasingly allow IT managers to off-load development of important but non-missioncritical intranet applications to users. COVERING CONTENT

Most of the readymade products promise a lot: to provide most common intranet functions, from document sharing to scheduling modules and other collaborative tools: to translate ordinary word processing or spreadsheet files into an HTML format without knowing a word of HTML; to easily create links via Open Database Connectivity middleware or gateways to SOL databases including Sybase. Informix and Oracle.

"IT doesn't want to be in the content-creation business," explains Andrew Dixon, products manager for Microsoft's Office. Microsoft has just released the second version of its 60minute Intranet, which consists of stepby-step instructions and site templates. "We're seeing a demand for intraner

tools that free IT from getting involvedin simple workgroup applications." The 60-minute Intranet, designed to belo povice users build their own intranet. applications, requires Microsoft's Front-Page and Office applications suite and can be downloaded free from Micro. soft's Web size

Until now, intrances have been touted as cheap -- International Data Corp. puts the average implementation at \$25,375 - and easy. But in fact, they have required a great deal of technical expertise, notes Rich Newman, director

of technology for the syndication division of First Chicago Capital Markets. That company's intranet projects usually require knowledge of HTML.

HTTP and Java, nor to mention understanding how to connect to back-end databases - both SOL-based and lovacy systems alike - and communicarions protocols, Newman says,

There are often political issues, too. You've got all these decisions to make: Who will own the product? Who will

own the server? Who will maintain it? Who will be responsible?" says Roy Lee. peneral manager of Lextra Communications, an Internet consulting firm based in Windsor, England.

That's where intranet appliances Lee chose Webtronics' WebBox. a plug-and-play intranet now available in Europe and soon to be sold in the U.S. "The key thing, for my clients, is that they don't have to worry about

installing and configuring a Windows NT or Unix server. The box comes with its own operating system and the Web server software installed and is ready to go," Lee explains. Yes, it's truly that easy, he says. The box requires a TCP/IP network and an IP address.

Political issues, which Lee faced in a previous job as an IT manager at a

Renegades Welcome? It's True.



a build their own i

"blue chip" UK company, could be alleviated by WebBox as well. When the IS group doesn't have the time - or funds - to listen to individual departments' needs, a product such as Web-Box makes it easy for a department to take the intranet initiative without affecting the enterprise, he says.

KEEPING IT SIMPLE

Ease of maintenance is what First Chicago's Newman was after. His fairly sophisticated corporate intranet is already enterprisewide;

employees use it to publish and share financial, human resources and customer information. Yet to solve one particular information-sharing challenge, he turned to a shrink-wrapped application called.

Net-It Central eather than to more tradizional development routes. Net-It allows Newman's staff to dis-

at Siamons AG. "Every department will have the ability to publish what tion they want on their ob server. They's really be

rds, there's no danger ti u will proliferate, Kiley w our piece fits into the larger

tion world." There's Zone Research in Redwood stif, this attitude is typical. a said she deesn't see co IT shops feering problems with

ody make it clear w

ope most important, Elis that by the and of 1980, all seminare source documents contain-

To get started. Web administrators merely indicate any directory containing virtually any type of document word processing, database, spreadsheet or eraphics - on any PC. Net-It replicates that directory as a Web page in which the documents are available in their original format to anyone who wants to access them

of publishing data. Here our users acra ally have direct access to the source doc-

uments," Newman says.

ing internal research, industry analyses and customet reports to all division employees. It's not that this couldn't have been done as a standard Web page on the existing intranet, but "what interested us was the ease of maintenance Net-It offered." Newman says.

"It's not HTML. It's not just a way

This toakes maintenance almost

from the top," Ells coys. S porate intrenet, here no ideas of what you can do with it, boro are proved tools and devi-Go to it."

- ALICE LAPLANTE

nonexistent, he says, because the source documents are the intranet site. Changes to the original source documents automatically result in changes to the Web site. In that sense, this is an excellent supplement, not replacement. intranet product that "doverails quite well with our existing intranet strate-

gy." he explains. There are limitations to Net-lt, Newman admits. It isn't an application development environment. "Nor is it a tool to build the kind of application in which a user can make requests or initiate actions," he says. What it does is allow up-to-the-minute access of source documents for collaborating on

group projects, he says At Santa Clara, Calif.-based networking giant 3Com Corp., the 100 employees who make up the Multi-Continued on page 6

"THIS PRODUCT will be excellent for any department . . . that wants to get an intranet up quickly."

BRUCE KILEY, SENIOR NETWORKING ENGINEER, SIEMENS AG



FINALLY, WORRY-FREE NT

. Seems like everybody and his uncle is trying to install Windows' NT applications.

And when they do, a few surprises will be waiting for them. Because NT is a proprietary domain-based operating system.

And when they do, a few surprises will be waiting for frem Because NT is a proprietory denoishbased operating system.

So it doesn't integrate as secretisely as promised And it can require users to chuck their existing network investment.

But now you can deploy NT without having to deal with its idiospromates.

You can turn it into an enterprise-capable open system supporting hundreds of thirdparty applications.

Manage agress to and deployment of Microsoft BockOffice applications such as Euchange and SQL Server

And lower the cost, complexity and redundancy of your entire network.

NDS" for NT makes it possible

NDS avoids the old-fashioned straight lacket of NT domains
environments of different platforms, different protocols, different people in different places.

NDS makes NT better. And one less thing to worry about

internet, intranet, extranet—anymet—the name of the net is Novell www.novell.com/NDS

Novell.

'INSTANT' INTRANETS

Continued from page 3 media Initiative Department are using

Radnet, Inc.'s prepackaged intranet surte, called Webshare, to share documents and participate in online discussion databases. "This allows us to collaborate on ideas as well as problemsolving, even if we're not all in the same location," says Tania Snider, a member of the multimedia group who spearheaded the intranet effort. Because Webshare can be interrated

with other intranet or messaging applications, Snider has been able to provide a gateway to Lotus Notes electronic mail so emun members can be automatically notified when new documents or related discussions have been added. This allows employees to use standard Web howevers, eather than traditional database queries and searches, to access important information.

Why go with the prepackaged toute! "It's always best to use resources that are alteady available rather than reinventing the wheel," Snider says.

BUYER SEWARE

But even with all the purported benefits of Web appliances and ready-made software, knowing what you're getting is a must.

The hardware-and-software pack-



ages tend to be fairly complete, offeror workgroups without access to teching everything from the hardware to nical resources. So it's "buyer beware," the Web server software to browser Aberdeen's Sloane warns. licenses. But the "intranet in a box" You need to know what your needs software suites vary: Some have Web server software or let users pick the brand they want. Others offer little more than traditional groupware in Web-enabled form. That means they

are and investigate which products actually deliver those needs in a cost-effec-

tive way," be says. For example, it might not make sense to purchase a hardware/software package if "you have the might be appropriate for companies spare server horsepower already sitting that already have intranets and want to in the office," Sloane says, encourage grassroots application devel-Likewise, if you have a reasonable

opment. But they're not truly plug and infrastructure - Web server software; play and therefore not for true novices browsers, etc. - already in place, you

Should You Consider an Instant Intranet?

of THE BACKLOS, are many of the

All PUNCTIONALITY do those a require? Do they simply nee

IS THERE SOMEONE In the work-

W LIKELY IS IT that you will

II DO YOU HAVE corporate

A Niche at NASA

At NASA, the Applied Informs ology (AIT) group is eval ing Oblix, loc.'s introPower Soits to

line collaboration efforts

need on se AZAM to onl

ok of its engoing tech ogy development projects. Previously, "we sent a lot of E-mail back and forth when tracting our weekly progress reports," Tuey says. Now users can ieve up to three m rookly reports to, for ilo, propore for mo

al reviews by senior They can also collaborate alias to create PowerPoint rieys because intra-rer allows for docum ring. "When it's time to make a presentation, we run the most recest ve of the group PowerPeint ion right off the

stranet," Tony explains. MASA is spearheading use of es as well in can case, it will be

see how the software suits of

"So for, so good," says Dick Tooy, the fermer head of AIT who's now contract-

oths, the AIT arous in

Paul Alvarez, a software applications specialist at a network design firm in San Diego, downloaded Microsoft's free 60-minute Intranet so he could leverage the Office97 investments of his company, GTC Systems, Inc. He notes, "We're still learning about intranets and how we can benefit from the technology. The nice thing about the packaged kits is that we get a vari-

ety of premade templates that we can modify to meet out own needs. *At the very least, you get some good ideas," he says. "And it certainly saves time. Which is always appreciated." LaPlante is a freelance writer in Woodside, Calif

WHAT'S ONLINE

the product to buy, Tuey at MASA mes it in coops

short learning curve, we don't have

"BECAUSE OF THE short learning curve, we don't have to

worry about support or maintenance, It's . . . ready to use off the shelf."

DICK TUEY, AMES ASSOCIATE AND NASA CONTRACTOR

> naistonence. It's a nice package -ready to use off the shelf — and it doosn't take a walking army to be it up and running." lotraPower or \$10 to \$20 per mos, according to the

> > -- ALICE LAPLANTE

wouldn't need the more complete software packages. "If you're simply looking for some sort of groupware to sit on top of an existing network, you'd want one of the less comprehensive packages," he says. But if you're starting from square

one, be advised that installing or cus tomizing a shrink-wrapped application

can require some technical help. "You

may have to outsoutce certain pro-

eramming needs to outside consultants. That can be costly," 3Com's Spider

notes. But it can still be "much less expensive than developing your own

directories, support users and keep the

Web server functional can also make

IT dollars to simply outsource all that to an ISP." Aberdeen's Sloane says. And

the products and services from which to choose will only increase, analysts say.

WHAT IT COMES DOWN TO Of course, as with any consumpting deci-

sion, with intriners it's a question of

control and who has it. Web appliances and plug-and-play software put that all in the users' hands, along with the deci-

sion of what will meet the needs, fit the

budget and offer the potential their

ization desires

sense. "It could be a very smart use of

application from scratch Using a third parry to manage Web



INTRODUCING NO-SWEAT NET.

The internet is wonderful—and worrsome

insule its a productive tool and not a seductive distraction? How can you protect confidential information from introderal How can you maximize its business potential while minimizing your financial risk?

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freedom to leverage your existing hardward of shower inventeents, reduce the cost of managing your corporate retworks, and increase boltomine productivity us to 100% Any retwork, any platform, any browser,

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PRODUCT SAMPLER

Hardware/Software BAY NETWORKS, INC.'S BAYSTACK INSTANT INTRANET Santa Clara, Celif. (1900) 784-4639. www.instant no

\$2,495 device connects your PC LAN to the Internet through a single IP address. Scalable to 100 concurrent user applications per stackable box. Includes Internet applications; just needs an account with an ISP.

COMPACT DEVICES, INC.'S TWISTER Compbell, Calif. (408) 255-4200 www.devices.com

\$1,295 plug-and-play hardware and software product designed to host small intranet sites. Has proprietary operating system. Comes with templates for creating Web sites; allows for document sharing and content publishing.

WERTRONICS, INC.'S WERROX Contact Cutting Edge Teck Laguna Hills, Calif. (714) 582-1546

www.wtnx.com \$1,295 plug-and-play hardware and software Web server for small businesses, branch offices and workgroups. Bundled with Claris Corp.'s HomePage

authoring software. Software INTRANETICS 97

Weburn, Mass. (100) 532-2600 Ready to run intranet software pack-

age, priced at \$4,995 (or \$7,495 for version with Web server software), includes 17 prepackaged applications and all software components for getting an intranct up and running: btowser license, SQL database and E-mail server.



MICROTEST, INC.'S WERZERVER Phoenix (602) 952-6400

\$1,595 plug-and-play hardware and software intranet server for publishing. organizing, searching and retrieving information for workgroups or departments. Allows for document sharing and threaded discussions for collaborative work.

LOTUS DEVELOPMENT CORP.'S

TEAMROOM Combridge, Mass. (617) 577-8500

Prepackaged E-mail and instance applications (\$15 to \$20 per user) sold with ISP services: everything from server space to support to maintenance

MICROSOFT CORP'S 60-MINUTE INTRANET KIT ledmond, Wash. (425) 882-8000

Free software designed to work with Office97 and FrontPage97, this includes four starter site templaces than allow workgroups to quickly pur up departmental intranets to publish and

retrieve data. Downloadable. NET-IT SOFTWARE CORP.'S

NET-IT CENTRAL San Francisco (415) 551-0600 www.net-it.com

Web-based groupware package, priced at \$4,995 or \$6,995 (professional version), allows shating of source documents in their original form. Includes templates for standard intranet sites. Can be integrated with HTML forms and other custom intranet applications

NETSCAPE COMMUNICATIONS CORP.'S VIRTUAL OFFICE Mountain View, Calif. (650) 937-2988.

Combines Netscape's SuiteSoor F-mail and Concentric Network Corp.'s groupware intranet applications. Concentric manages all aspects of operating the Web server at a remote site.

OBLIX. INC.'S INTRAPOWER SUITS

Coportine, Calif. (408) 524-9700

Suite of software tools (\$10 to \$20 per user) to enable collaboration among members of a workgroup viz an intranet. Basic features for online document sharing and collaboration. Requires Web server (Netscape, Microsoft ot Apache) in place.

RAONET, INC.'S WEBSHARE SERVER Combridge, Mass. (\$50) 723-6301

ou reduct com

\$2.695 set of Web tools for designing intranet applications. Works with any Web server. Ships with Sybase, Inc.'s SQL Anywhere database.

REVIEW

Load and Go Appliances

By Chris DeVoney

anautrwarld reviewed three servers that typify Web appliances: Compact Devices, Inc.'s Twister Internet Server (\$1,295), Webtronics, Inc.'s WebBox (\$1,295) and Bay Networks. Inc.'s Instant Internet (\$2,495). Instant Internet is an Internet gateway for Novell, Inc. networks. Twister and WebBox on Web servers.

The servers are attractive to corporations because they are quick to install and require only modest technical expertise to configure. But they aren't perfect. Neither Web server offers complete Web authoring and management tools, and the Instant Internet router makes no sense if the clients already run TCP/IP. And because the devices are used outside of a central authority, the quality of the content could be a problem.

COMPACT DEVICES: TWISTER Of the three devices, 4.5-pound Twister was the easiest to install, configure and

run, but like the other Web appliances, missing database tools and connectivity constraints fimir its use. The device's internal 1G-byte hard disk is large enough for even a huge Web site. A SCSI-II connector allows for addi-

sional disk drives or a backup device. Bundled software includes Claris, Corp.'s Home Page 2.0 and Net-It Softwarr's Now. Documents can be converted in batch mode, though hyperlinks must

be added manually Like most Web appliances, mainteance is beower-based, and software can be updated in the files. The only knowledge required for setup is where to plug in the cables and what the TCP/IP address is.

Of course, you still have over head and maintenance of the Web pages. Sophisticated Web layout is beyond Home Pare's expertise, and connecting to a

database requires CGI program Also, Twister's throughput limit of 3M byte/sec. and 30 concurrent connections chokes on bury sizes with more than a few thousand hits a day.

WEDTERMICS WEDDING WebTronics' WebBox tops its compe nition by offering the TCL scripting language to create CGI applications. Its major problem is limited storage.

The box plugs into any 10Base-T Ethernet network and configures via a Web browser or the serial port. During setup, the box didn't respond to our comouter's browser because its address wasn't set correctly, so we ran a characteroriented setup using the serial ports of the box and our computer. The initial setup was basically the same as Twister's.

WebBox uses 1M to 8M bytes of flash memory to hold files and Web pages. It seems to work at about half the speed of other Web servers. The limited mem ory size can hold most text-based sites and some graphics, but if your needs are larger, look elsewhere.

BAY NETWORKS INSTANT INTERNET Bay Networks' Instant Internet is actu ally a combination Internet router/

server. It connects up to 100 concurrent clients on any IPX/SPX network to a local Internet service provider (ISP) using . med him at chirad@cybercritic.com.

Magazines Editor: Alan Alper. Phone: (800) 343-6474; E-mail: anne_mecrary@cu.com; fax: (508) 875-8931.



This 4.5-poped device was the section of the three to metall, configure and run but lacks detabase tools

> your choice of a 33.6K or 56K bit/sec. modern, Integrated Services Digital Network adapter or T1 adapter Because Instant Internet acts as an

IPX-to-TCP/IP gateway, all cl the box's single address to HOW THEY HA access the Internet, reducine the cost of the Internet

account. Because the Novell clients do not need to run TCP/IP, the clients are more secure from TCP/IPbased Internet attacks. A built-in firewall provides

additional accurity Configuration is simple Preconfigured scripts make the gateway connection to more than 600 ISPs, and Bay Networks will write a custom script. Operations

use the Novell Directory Service-style interface to load users and groups and

assign privileges and restriction Instant Internet excels at connecting any remote office or department. But if the clients run TCP/IP or have Inter-

net access via the corporate network, look at a standard, cheaper Internet rouner or run clients through the corporate routers DeVoney is a reviewer in Seattle, F-

COMPUTERWORLD INTRAMETS is published monthly on the fourth Monday of the month as a supplement to Computerworld. Editor: Anne McCrery: Designer: Mary Beth Welch, Assistant Managing Editor: Kimberlee A. Smith; Computerworld

OSEN systems. Open standards. Open doors of interchange anywhere in the world that is the promise of intervolving

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the industry's leading cross-platform directory service.

providing single-source administration of all parts of the computing environment, including UNIX* and NE servers, mins and mainframes

NDS" also closely integrates with Novell BorderManager" technology, Novell's newest internet product.

Novell

Border/Manager is the industry's first integrated family of directory-based network services first manages, secures and accelerates user access to information of every network border—

that manages, secures and accelerates user access to information of every network border the point where any two networks must

NDS and BorderManager are objectoriested network services that can be integrated under Novelt's Network. Object Services for Java*
This virique set of Java intratives allows developers to fully build robust and

scalable serverbased solutions for the internet

using open public API specifications for Java applications for global computing.

And GroupWost* 5.2 leverages the obequity of the Internet to deliver expanded e-mail capabilities such as colordaring and scheduling, document management, workflow, imaging, threaded discussions and status tracking—

for any user with any browser on any server

Networks will continue to get bigger, faster and more complex. But they're still just networks.

And no one knows networks like Novell.

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GETTING SECURE



Briefs Calling all customers

 Autodialer doubles airline's customer

service productivity By Matt Hambles

MORE AND MORE, airlines con cerned with customer service are calling passengers to tell them when a flight is delayed due to bad weather. And those calls are traditionally made

by customer service personnel. Officials at U.S. Airways said they have cut in half the time it takes to contact passengers by using automatic dialing software they installed more than a year ago. The faster they notify a passenger, the less likely it is a customer makes an unneces-

sary trip to the airport. "We've improved the produc-tivity (of calling agents) by at least a-to-1 and maybe by more," said John Magliocca. director of special services at U.S. Airways in Arlington, Va. "It eliminates a lot of work."

"We had a manual outbound calling process in place before, but this method gets in touch with more people in a shorter



U.S. Airways uses dieling software to call passengers who flights are deleved, reducing unnecessary trips to the airport

time, and that's sood cur service," Magliocca added.

TOO HANY CALLS The airline employs 75 agents in Winston-Salem, N.C., who actually talk to passengers whose flights were delayed or routed to another airport. The agents, who also book new pas sengers, make more than 5,000 calls per day.

Automatic dialer software from Mosaix, Inc. in Redmond Wash., picks passenger tele

phone numbers from the airline's database and initiates

No agent is involved until a senger picks up the call. That saves the agent the time in dialing or reaching busy signals or fax machines. The agent is notified automatically via a desktop PC when a passenger answers, and then the agent

works with a customer's record to help reschedule a flight. With the automatic calline

Airline, page 43

WORKFLOW

Novell ships GroupWise add-on

Can use E-mail to build workflow apps

By Barb Cole-Gomolski

NEW SOFTWARE from Novell Inc. is putting workflow appli-cations within closer reach of users of its GroupWise messag

The Prova, Utah, compuny recently shipped GroupWise WorkFlow Professional, addon software for GroupWiss that lets users build and partici pate in workflow application using their electronic-m

The software was designed to automate document-driver processes such as expense reporting and capital requests. It could also be used for project management and to poll work

IS managers shop the Internet for just the right tools By Patrick Dryden

'TIS THE SEASON FOR IS MAIN agers to stuff their stockings with some handy tools for maintaining client/server net-

The Interpet is a toy factors for freeware and cheap point products to finish off those calendar-year budgets and discretionary funds. *Right now. I'm seeking

something simple to monit Windows NT servers and send an alert about any problems," said Gil Brand, an information systems vice president at the Dallas data center of Nations Bank Corp. in Charlotte, N.C. Brand said he has an immediste need to fill, even though the bank is beginning the ardu ous implementation of "the Cadillac of systems tools" --

ment software from Tivoli Sys-

will handle this task. . Such strategic choices can eventually pay off, but IS man-

agers must keep an eye on value, said Theo Forbath a consultant at Northeast Consulting the tool to fit the problem, and it will quickly pay for itself, he For example, managers at

ing Unix, Novell, Inc.'s NetWare and Windows NT servers, said lun Kenyon, director of technology infrastructure at the directo-Gale Research turned up a ry publisher in Detroit

Heridies, page 45

"nice, inexpensive adjunct to STOCKING STUFFERS

A few places to peek for free network and systems management tools:

ly little ut





JORGII ABOUT



convertible the



in at 13 089 30 pm. the higher IPCC score were recorded by a line. Lassed server More remains ably this same system as a more performan as a indext of a phen innersal or a form of the server in the server of the

ALR



Airline notifies of delays

CONTINUED FROM PAGE 41 software, which is sometimes called a predictive dislate, U.S. Airways, said it saves at least 40 seconds per call. That means it could save 55 hours of work by its entire staff on a busy day. When agents aren't making calls to reschouse aren't making calls to reschouse the displate, they are verifying information on

customer accounts and scheduling new passengers.

This application sounds very useful for customers, and the positive experience might give a customer impetus to

a call the airline in the future for a fligi it said analyst Chris Selland at The Yank

Group in Boston.

"It's a positive trend if this takes hold.

A lot of different customer-friendly applications are possible, and customer ser-

vice is such a key element," said Al Fross, president of The Pelorus Group, a consultancy in Raritan, N.J.

About ay vendors compete in the call center disling systems market, with Mosaic supected to finish second in U.S. sales this year behind EIS International. Inc. in Rockville, Md. EIS should take about 18% of the market this year, with Mosaic close behind at 16%, according to Pelorus' predictions.

The domestic market was \$276 million in 1996 and is expected to top \$380 million in 2000, Pelorus said.

U.S. Airways wouldn't discuss what it paid Mosaix, but analysts said automatic dialer systems for large companies sverage in price from \$4,000 to \$7,000 per seat for software and hardware. Maglioces said the Mosaix system has

Magliocca said the Mosaix system has more than paid for itself in a year of use.

ADVERTISEMENT

Managing Re-Systemization

How U S WEST Dex moved from a mainframe to a distributed environment with PATROL.

S WEST Dea, one of many U S WEST companies sells Yellow Pages advertising, related mailing lists and other products that are derived from telephone directories, with over 42 million printed

copies.

Handling all of this publishing and taking care of nearly half a milion USA and international clients calls for complete distribution of data 24 hours a day. All of the company's critical applications must available to thousands of users.

The original mainframe needed upgranding and the decision was

upgrading and the decision was made by U S WEST Des management to move to a distributed environment. Over a period of many months, operational processes were decreased on the mainframe and increased on the distributed systems.

U.S. WEST Dex created a new group called the "System Management Center" (SMC) to recommend products to help them ease and manage the transition. As interaction with the SMC progressed over a couple of months, one partner relationship between two vendors stood out, that of Hewlett-Packard and BMC Software.

"We found that the partner relationship between these two componies was able to satisfy a broad range of our needs. The joint presentation of their individual products tended to complement and even strengthen each other. We saw clear obvantages to both vendors working with us a single team rabber than contract jointly had warded them our contract jointly had you explaine. Project Mananer Henry Varras of

"Our business-critical applications have been re-architected into the client/server model to help give us a competitive ndvantage. We use the Hewlett-Packard systems due to

U S WEST Dex

high performance and the ability of Hewlett-Packard and BMC Software to put together a solution."

Software to put (opgether a solution.)
These products well provide U.S.
These with the ability to coltisting the solution of the solution of

"We are pleased to be working with BMC Software on this project," said Business Development Manager Travis Muesing, of Hewlett-Packad. "We have worked with them before and have always foll that our products, ervices, support and education complement each other. Together, we can always provide our customers with a complete, timely and cost-effective soloplete, timely and cost-effective solo-

tion to their integrated network and system management needs."
U.S.WEST Dex plans to incorporate more of the Hewlett-Packard and BMC Software products to provide additional support for IT opersions, performance monitoring and IT administration.

is reselling PATROL® technology and products because of the tight integration BMC Software is delivering through the HP

ing PATROL® technoloproducts because of the tegration BMC Software ering through the HP OpenView enterprise

solutions. Together, HP
OpenView and PATROL provide the highly desired complementary functionality that our customers need today in the areas of application and data management.

Johnson-Miller Inving, General Manager HP Professional Services Organization for the American

Top industry leaders are relying on PATROL for a reason. To find out why visit us on the Web at www.benc.com/patrol Or call tedor. RND 811-6766.



laters to the interest part of the part of

concore constitutions, sec. has announced Network Health 4.0. software for network analysis and reporting on Unix and Windows

software for network analysis and reporting on Unix and Windows NT networks.

The Marlboro, Mass., company said the software has new pointand-filed report compilities to

and-click report capabilities to select what elements to monitor, the frequency of the report and the output format. Pricing begins at \$20,000, and the Network Health Developer

the Network Health Develop Program starts at \$5,000. Concord Communications (800) 851-8725

NOMEXX UNLIMITED SYSTEMS CORP. has announced AutoSet, a switchless, portable modern interface product. The San Diego company said AutoSet turns digital PBX lines

Authorit turns digital PRX lines found in many hotels ind offices into analog lines. It weighs 9 ounces, has a 9V battery and uses digital signal processing to automatically set signal levels for the telephone connected to a computer modern. Authorit costs Sign. Koence Unlimited Systems (Fred Sex-lace)

(619) 622-1400 www.konexy.com

NETWORK INTEGRITY, INC. has anmounced LANtegrity 4.0 for Net-Ware, software for backing upservers that run Novell. Inc.'s Net-Ware on LANs and WANs. According to officials at the

According to officials at the Mariboro, Mass., company, this version offics real-time, byte-level backup by capturing only the bytes that are modified on protest extremely and the support for NetWare Loodable Module databases and applications that store data on a server. It costs \$60.00 for the server.

of ware and a too-user license.

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Do you have a Power Network?

Workflow add-on for GroupWise

groups to determine a consensus

The E-mail-based workflow package could prove easier and less costly to deploy than a stand-alone workflow system.

TOO TRIVIAL

Ron Nicholson, a senior systems admiistrator at Georgetown University in Washington, said he has wanted to automate purchase requisitions for some

However, he couldn't justify a stand alone workflow package for such a trival application, he said.

THIRD PARTIES FILL GAP

Novell GroupWise	WorkFlow Professional
Lotus Notes	Add-ons from Actio Technologies and Casahl Technology; IBM's Flomark software

It also would have meant going to a third-party vendor and possibly requesting new hardware, Nicholson said. GroupWise WorkFlow Professional will allow him to use his existing E-mail network and deal with a familian

Although adding workflow to an existing messaging network is fairly simple, that also could limit its scalability. according to Frank Manci, a network technical manager at Colonial Savings

F.A. in Fort Worth, Texas For example, GroupWise WorkFlow Professional couldn't replace Colonial's mortgage loan application, which was built using a stand-alone workflow enine from Mosaix, Inc. in Redmond, Fash., Manci said.

FASY TO USE

Ease of use is also a big issue for users, because workers are supposed to be able to use GroupWise Workflow Professional to design their own workflow applications. Novell officials said users simply need to place icons on a workflow canvas and draw arrows to assign steps in the workflow to their co-

"It's nice because the (workflow) documents no right into your GroupWise inbox," said Dan Wood, network technical administrator at American Society for Quality, a nonprofit professional group

in Milwaukee that beta-tested the soft-

Wood said it could be used to 'automate the processing of a lot of paper forms that flow around the office." check the status of a document without finding out whose desk it is on, he said

Third-party workflow add-ons are al-

ADVERTISEMENT

ready available for Notes and Micr Corp.'s Exchange, but Novell has taken a different approach by licensing workflow software from FileNet Corp. in Costa Mesa Calif.

GroupWise WorkFlow Professi runs on Windows os and Windows NT. Pricing is \$149 per user when purchased alone, or \$69 when purchased in conjunction with a GroupWise 5.2 license (1

From Desktop to Enterprise

Leaders in I/O Technology

he demand for device driver portability between rating systems and host increasing requirements for intelligent, distributed I/O pro-

cessing has led to the development of the Intelligent Input/Output, or 170 specification. BMC Software and Intel Corp. are working closely with the 1-0 Special Interest Group (SIG) to bring 1-0-compliant tech-pologies to market, including integrating PATROL Management solu-tions with the Intel 1960RP I/O processor.

'The importance that the Intel/BMC relationship brings to the market is that BMC innovation in I/O technology naturally makes them a leader in this collective new I/O-centric industry," states Alan Steinberg, Director of New Bus Development, Connected P.C. Division at Intel. "Currently we have companies coming in from the desktop and from other areas of the industry that don't necessarily have the Enterprise experience BMC Software has to deal with the type of I/O that is needed in what could be called the new 'open mainframe' world."

Steinberg envisions a world where Microsoft will provide the main operating system, Intel will provide the hardware architecture and BMC Software will contribute the key Is0-compliant management technology BMC Software's role will be to help architect what Steinberg calls the "highly available. highly manageable open system mainframe" on the I/O space.

Bob Beauchamp, Vice President Strategic Marketing Corporate Development for BMC Software, agrees. The pervasiveness of the i960 chip in the Windows NT and NetWare environments, com-bined with BMC Software's PATROL technology, will emp

customers with unprecedented management and monitoring capabilities om the application to the mother

tistics regarding I/O is a great step forward. The PATROL Application Management Suite completes the picture by correlating I/O statistics with the applications that are utilizing the lyO components or sub-sys-tem. This allows unprecedented optimization capabilities, such as omated load halancing, cache reallocation, and the rerouting of twork truffic. All of these capabilities can be performed on demand and are based on the performance

requirements of the applications.

Carrently, no two vendors come a close as Intel and BMC Software in providing this comprehensive "We've moved into a new par

the central CPU technology," states Steinberg, 'This shift will allow BMC to proliferate its management product line in the open systems environment. Pairine Intel I/O technology with PATROL is just the very beginning. It's the first product of many, as this new I/O-centered technology emerges into the marketplace, and we think it's going to be an exciting ride."

digm where I/O is as important as





technology into the i960RPs I/O processor in order to

provide the direct manage-

ment capabilities for I/O subsystems customers are asking for.

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Finding just the right tools

Service-level reporting software called AlertPage Enterprise from Geneva Software in Northbrook, 4ll., tracks the performance of network access, file service and electronic mail for 700 users without forcing IS to justify the expense of a big management platform, Kenyon said. Pricing starts at \$60s for up to soo users, just a "blip on the budget," he

said. "We just downloaded the software, turned it on and off it went Another handy product that sneaks in

under the radar is WhatsUp Gold, which also costs \$60s.

For that price, the product, from Ipswitch, Inc. in Lexington, Mass., will monitor an unlimited number of servers and network devices.

INSTANT'EXPERTS

An IS staffer cruising the World Wide Web at New York-based Elizabeth Arden Co. found WhatsUp Gold. Within two days, the 1S group became experts at customizing its tools, said Steve Steffek, senior technical specialist for global networking. "Now we can see network problems before our outsourcer does," he

The Web itself is "the best tool of all tinte" for freeware and application notes and support tips, said Trevor Paquette. Unix network architect at Metronet Communications Corp. in Cal-

SHORTS Online security

sco Systems, Inc. in Meete Park, ilff., and Hearlett-Packard Co. in alo Alto, Calif., have Jointly re-seed the Secure Web Transaction

Crash handler

er LAN, Inc. in Darry, N.H., e fee its Al

the free and easy spread of manage But beware of newsgroups and subscribe to mailing lists instead. Page warned. "Newsgroups are cluttered with cross-postings you must wade through, can't get a cohesive view of operations, said Bill Oris, an IS vice president at

and few good sources like to post there

anymore for fear that E-mail spammers

tools throughout an organization. NO BIG PICTURE grown software and diverse products don't work together, so central IS

will pick up their address."

me IS managers also warn against

We're trying to get rid of most of the 150 tools we have now by imple the Unicenter TNG enterprise mana ment suite from Computer Associates International, Inc., One said. Also, wanton use of man

tools can clog networks with monitoring traffic and sap servers, routers and oth crucial gear, said Joe Askins, director of data communications at Artzona State

University in Tempe. Cl

J. P. Morgan & Co. in New York. **Artvertisement**

Smooth Transitions

Louis Poulsen & Co. smoothes their transition to SAP R/3 and open systems with PATROL

enmark's Louis Poulsen & Co. A/S is known internationally as the manufacture of the world-famous PH lamps, and as sellers of electrical appliances. Louis Poulsen has its production wing based in Denmark, but sales and distribution offices are spread around the world on four continents. Consequently, it is a company with simultaneo requirements for advanced production management, effective logistics, and continuous budget control across a geographically distributed

To more effectively meet these requirements, Louis Poulsea decided to move their IT operations from an IBM mainframe system to an SAP R/3 solution running on IBM RS/6000 hardware with the Informix RDBMS

The benefit is obvious when the entire system is running smoothly no matter where in the world requests come from everyone receives up-to-date and exact information. However, when things are not running smoothly, the problems

Louis Poulsen realized they could ore effectively utilize client/server solutions if they made automated management part of their overall management strategy. Their first step was to introduce the IBM NetView product for management of their network environment. The next step was to incorporate aut mated application and database through

PATROL® Management Suite of products from BMC Software. Peter Jacobsen, manager of IT operations states that, "without a doubt, automated monitoring of the Informix database, especially the PATROL features that help ensure log files do not overflow, has belpe avoid a number of situations th would otherwise have resulted in as

in 1996 a PATROL Knowledge Module that would proactively manage SAP R/3, it was an easy decision for Louis Poulsen to trial the product. "SAP R/3 comes with a syst management tool called CCM5," says Jacobsen, "but to use it you need manual interaction. PATROL gave us the ability to automaticall tor relevant R/3 paramete and, at the same time, have information about them presented to u in context with other information from PATROL about our data bases and platforms. With PATROL, we get a complete overview about how our application environment is

Through PATROL, Louis Poulsen learned of a number of ortant parameters in their appli cation environment that could be monitored and tuned to support higher application availability and improve performance - parameters they didn't even know the existence of before PATROL. Now, at any time, they have instant access to this important information Jacobsen, "With PATROL, we have a tool that allows us to drill deep into our systems, applications and databases for information. Plus PATROL lets us know if changes we are making in one area of our envi rooment will have a negative impact on other areas. There are still ma igs we have to learn about

PATROL, but we definitely know it is necessary for future management and tuning of the system as well as our insurance for keeping up with the end users' demands for



for in-depth monitoring and management of R/3. It" is important that our customers

have management tools like PATROL that can ensure optimal

performance and high availability. 77

try leaders are relying on



MC biffuse to MC biffuse tags and platfor and all or prints come on expense tradematics trademate of MC biffuse to, o to 101 and a size and countries. If all Y biffuse to our CU countries the sage and proportional come contents are explained redemate or because of the region of proportional come contents are explained redemate or because of the regions of proportional come contents are explained redemate or because of the regions of proportional common contents are explained redemate.

THE SURGEON WARNED THAT'S CAN STUNT Y

PC servers' appear to be perfectly harmless. But if you tie them to the growth of your

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clients and PCs. What's more, true enterprise-class solutions from Lotus* and Oracle*

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GENERAL HAS EVERAL THINGS OUR GROWTH.

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Software

$\operatorname{\underline{Briefs}}$ Cranberry farmers boot up



CA's object database gets its sea legs

 Technology still unproved in market

By Craig Stedman

AFTER A LONG STAY IN dry dock Computer Associates Interna tional. Inc.'s lasmine object database finally has been deemed seaworthy.

Now CA has to go out and prove it can bring object database technology more into the mainstream of corporate information systems.

FIRST IN WATER CA, which released Iasmine this month after a

year of delays, is the only big database vendor that is betting on a fully object-oriented produ Object databases sold by a gaggle of smaller companies so far ave barely made a dent in the dominance of relational soft

But early lasmine users said CA's combination of an object database engine and a drag-anddrop development environment may make a pure object ap-proach more palatable, especial-ly for World Wide Web applica-

data. For example, The Chase Manhattan Bank Corp. in New York uses Jasmine to develop an online newsletter for workers who sell and manage mutua

funds through a separate com nany that is serviced by the bank's IS department. Storing multimedia data such as images and audio in relational database tables would limit

functionality for end users and would require "a lot of extra work up front by developers. said Kenneth Watson, manager of infrastructure application services at Chase's large-account

And lasmine's built in lade development environment is

easy to use, so employees at the mutual fund company should be able to modify the newsletter themselves by dragging objects around their screens. Watson added. "You don't sitting there belping them do it," he said. Card Corp. in Hicksville, N.Y., uses lasmine at

the central database would support for an upcoming apits proprietary plication that will binary format store medical records, and the uningerprints and other

personal information about chilren on smart cards that can be aned in emergency rooms. Jasmine in tests ran two to

DEBORAN BEATON CAN tell you enty of colorful cranberry sto-

Beaton, the wife of a fourth peration cranberry farmer in akeville, Mass., can tell you the smal time to bring in polli sating beehives for particular berry varieties; how sweet cranberry-flower boney tastes; and how many times per year bogs

are fertilized. Beaton's husb of the owners of the 1,200-acre Beaton's Cranberry Growers Service, can tell you even more about rain, soil and tempera ture. The 50-year-old farmer last year decided to start-letting a PC tell him more about his

crops than he could divine from his more than 30 years of expe-Cramberry farmers, page 52

Office gets HTML; open file format not a given

By Gordon Mah Ung MICROSOFT COAP,'S ARROUNCE ment that it would embrace

HTML as a native file format in the next version of Office doesn't necessarily mean the company . is embracing universal file

Breaking

format, industry observers from tradition Microsoft said

versal language of the World Wide Web: Hypertest Markup

Language. The move is significant be cause it shows Microsoft is HTML, page 52

Cranberry farmers boot up

rience. "In many ways, cranberry farming is a seat-of-the-pants kind of thing that changes with each variable," t6-year-old Debnrah Reaton said.

Last spring, she worked with a programmer at Charles River Technologies in Wellesley, Mass., to develop an application hased on Mapinfo Corn's \$1,200 MapInfo Professional

The program lets the Beatons overlay geographic maps with information about weather putterns, crop varieties, yield and the farm's use of insecticide and fertilizer.

EMPLESS POSSIBILITIES The variables are almost unlimited, and we're just begin

ning to touch the surface of what we carrdo," Deborah Beaton said. The program runs on a regular Pentium-based PC.

Such prographic information systems mapping applications are used in a wide variety of industries to track informati including geographic cellular telephone use and the location and condition of phone cables. The software also is used extensively by other kinds of farmers. said lames Lein, associate professor of geography at Ohio University in Athens.

"Most recently, the manner ment of andividual farms bas

received a lot of interest, particularly [for] optimizing the arrangement of crops in the field, cropping patterns and

cropping schedules." Lean said in this context, the computer map serves as the center of a decision-support system or management tool to guide the



ion (above) and husba

The Beatons first used the software to generate maps that guide school groups and heli opter pilots to individual boos ince then, the farm has used

the application to simplify its

But would Microsoft's romctitors — Lotus Development Corp. and Corel Corp. - benefit if Microsoft moves to an HTML-standard document for-

Harry Fenik, vice president at

Although Microsoft was light on details, the company said it would use a combination of HTML and Extensible Markup

Microsoft products. Jim Burks, engineering manager at Harrah's Entertainment. Inc. in Memphis, said be doesn't think HTML is any so-

lution for interoperability between competing suites anyway "HTML is not as rich a for-

Each bog is fertilized seven

al software that had to guil the data out of row-based tablex, mes per year by helicopter. said Mark Basile, CEO at Inand each application needs to "When you're trying to get inbe timed precisely for proper

formation that might help save By overlaying geographic someone's life, time is everymaps with growth and variety thong," Basile said. data, the Beatons can order the Incredible Card looked at othexact amount of fertilizer they er object databases, but their multimedia search capabilities

didn't match lasmine's. Basile said. CA's market beft also makes it "more credible on the support side" than the smaller object database vendors, he

Object database sales are expected to total only about \$200 million this year, according to International Data Corp. (IDC)

CA's Jasmine gets its sea legs

CONTINUED FROM PAGE 51 three times faster than relation-

in Framingham, Mass. That is a moments fraction of the second database business, which IDC projects at about \$11.5 billion. Unlike CA, database vendors such as Oracle Corp. and Informix Software. Inc. are adding object features to their relational products. That may be the way to on for users who "don't have

the luxury of throwing out everything and starting over," said Carl Olofson, an IDC analyst. For new applications that involve multimedia or complex data structures, the Jasmine/ Jade combination 'really takes

the fear out of using an object database," Olofson said. But Islandia, N.Y.-based CA still has to prove that Jasmine can scale,

Users tame ERP systems with third-party schedulers

By Randy Weston

USERS ARE TURNING to thirdparty 50b scheduling applications to tame the herd of enter prise resource planning (ERP) beasts they use to run their

Many of those job schedulers. which allow users to run resource-intensive jobs such as Section 1 financial reports overnight, have adapters de signed for specific ERP pack-

ages such as SAP AG's R/s. Those adapters, combined with links to legacy applications, allow users to plan processing across their company from a single source

"The issue of scheduling lots of jobs, and lots of complicated iobs, has arrived at client/server space," said Sue Aldrich, an analyst at Patricia Seybold

Group, Inc. in Boston For a mere mortal who has to run jobs on a bunch of different platform, these sched ulers are a godsend. You don't have to know the (Windows) NT

command for this oc the Unix command for that." Aldrich ex-Among the companies releas

ing job scheduling modules specific to application packages are Santa Clara, Calif.-based Unison Software Inc. Its Maestro product is the first system to be certified by SAP for use

Also available is AutoSys from Platinuen Technolog Inc. in Oakbrook Terrace, Ill While SAP R/3 and other systems come with job schedulers. some users are turning to the third-party products because it allows them to better link dis-

parate systems. For instance, Secaucus, N.J.-based Matsushita Electric Corp. of America has a plethora of ERP systems to run its five divi-

They include R/3. Den based I.D. Edwards & Co.'s OneWorld and Proat, which is made by a small Dutch vendoc Matsushita is using Maestro to

schedule processing jobs. SAP's job scheduler "we well within R/3, but when you are dealing with legacy systems and other systems. It doesn't have the tentaclex to reach out and grab any of the other systerns," said Wayne Hebert, proaction control scheduler for

"We were looking for som thing that could handle both sides of the fence," he ex-Pricing for a system such as

Asestro starts at about \$14,000 for a single system, plus \$4,000 for every additional system to be linked to the job

Aldrich said users who are looking for a third-party product should make sure the scheduler can link to all the platforms that may run in a company. O

HTML format

CONTINUED FROM PAGE SI pushing to Web-enable its products and also serve a large installed base of Windows 2.1 users who aren't migrating to Windows 95 as fast as the com-

pany had hoped, analysts said. "I think it actually shows the evolution in Microsoft's thinking. Previously, they focused on new systems and new software for revenue growth. They're say ine we have to take care of the base now," said Chris Le Tocq s poftware analyst at Dataou in San Jone, Calif.

Le Tocq said Microsoft miscalculated the maturing market when it assumed users would uperade ouickly. Various industry polls indicate that at least 50% of corporate desistops still run Windows 3.x products. Le Tocq said Microsoft is adding features that will entice users to upgrade but let those with older hardware and software still view documents created with

osoft products.

Zona Research, Inc. in Redwood City, Calif., said the change might make it a little easier to exchange information among suites and maintain formats, but users would still be nited to usine some form of filtering system.

Language to embed some information that is accessible only by

mat as the internal Word for

mat or Ami Pro format." Burks said. "When we exchange information with someone who is not an Office user, we typically save in an older version of Word. Word is pretty much the lingua franca of the desktoo." Users of competitive products

need at the proper time

OWLEDGE MANAGEMENT

The correct amount of fertifica-

is loaded on to helicopters, and

pilots are given precise direc-

tails about where power lines

are located - to each of the

bogs. Helicopter pilots charge

\$400 per hour, so a mistake

that sends one all the way back

to a supplier for more fertilizes

And because all the data can be linked together, the Beatous

have slashed the time it takes to

figure supply quantities from two hours to five minutes All this data could overwhelm

an operation or get filed away

and not used without a good

way to store and analyze it.

has kent all of this information

in his head for to years. But

now I'd like to free up some of

his mind for other things," she

"My busband is amazine. He

Deborah Beaton said.

saud. []

can be extremely costly

ons - which now include de-

would have to use a filter to ac cess all the information. Lotus' product, SmartSuite 97, already allows native HTML file support. Lotus' new Java-based E-Suite developed for thin clients also uses HTML as its native

file format But some users said the file format and interoperability played a smaller role to the user

Lotus and Corel said they would welcome any moves Mo crosoft makes toward adopting a more open document format. Microsoft officials maintain that the change is to address

corporate intrapets and that users will still overwhelmingly choose Office because of its ease of use and lower mainte-

STORAGE GOES SOFT ple of disk subse

Servers & PCs

Lorge Systems + Workstetions + Portoble Computing

storage revenue

Unix \$7B \$3.38 \$1.68

work open ating system \$897M OpenVMS \$523M

\$217M

Other \$2.78 \$16.28

Briefs Tools extend storage arrays

▶ EMC. others offer flexibility via software

By Tim Ouellette

NO BROKEN promises here. Late last year, storage hardware vendors promised to spruce up their disk arrays with tools that extend the canabilities of the boxes. And now software onboard the disk system plays as important a role in storage

strategies as the growing capacity of disk drives Software is giving users more flexibility in how they locate and store data, speeding up disaster recovery access and slashing

timetables for large-scale projects such as year 2000 conver-"We were interested in [EMC Corp.'sl data sharing, but more important was the TimeFinder software we could get with the disk array for business continu ance," said Jim Stirling, manager of technical services at Mort-

gage Guaranty Insurance Corp. in Milwaukee CKUP FEATURE TimeFinder lets users take a

point-so-time data picture for backup. Stirling said he plans to use the tool for that purpose and also to create a year 2000 testing environment. "We can avoid renting space from an outsourcer, and instead we can play around on-site with undated data off-loaded by

enough to justify the expen subsystems will be provided by Tools, page 54

Vendors promise more to come next year, especially in the areas of high availability and

ster recovery.

And even though the cost of these tools is high compared with falling hardware prices. users find them strategic In fact, by 2000, most of the value delivered by disk storage

copy of real data Unix data transfer at mainframe speeds Upgrade for longer distance between data centers Ramac Sna Upgrade adds sup VSAM files shot Copy 1.2 Remote Copy mirroring to remote sites On-Line Date was data from oth arrays to HDS' 7700

· Enhancement for data backup

Chip promises tape capacity boost

By Nancy Dillon

OVERLAND DATA, INC. has announced a chip that may double the capacities of linear tape drives - an advance that could mean users need to keep fewer tapes to back up data, users and analysts said.

Such drives include digital linear TECHNOLOGY a mixture of DLT.

TECHNOLOGY 4mm and 5mm van-based drives. They are used on desktops, with servers and in tane libraries

The chip could enable more performance for the price, analysts said. The chip is based on a proprietary encoding technol ogy called VR2, which San Diego-based Overland hopes to license to manufacturers for use

in late 1998 products.

"With |direct-access storage devicel storage increasing all the time, the more data that can be fit on to tape, the better," said Richard Reed, regional director of information systems at Cigna Healthcare of Florids, Inc. in

> Reed said he has drives on his network but is moving to DLT drives because of their high capacities. "Anything that can allow you to reduce the number of drives on a network is a plus," he said.

Overland's chip works by reducing the amount of instructional information that linear

nizes array for

lanced workload

as Anna, Sonn Gibr



data paths. And reduced tape drive instructions mean more room on tapes for user data Similar technology has already Tage capacity, page 54

Many notebook users take a pass on further upgrades

Reasons some users aren't buying laptops

. Satisfied with 133- and 166-MHz processors ling pressure to upgrade constantly

ng for Windows NT 5.0 and Windows 98

. Disgruntled with higher laptop prices

By Kim Girard

SOME CORPORATE USERS, CONTENT with their most recent notebook upgrades, are snubbing new models despite much-touted speedier processors, analysts

"The corporate market is say ing the upgrades are coming too fast," said Randy Giusto, an analyst at International Data Corp. (IDC) in Framingham, Mass. "A lot of the corporate market is saying they don't need

Pentium II." Many users are satisfied with what they have or are waiting for their operating system upgrades to coincide with the capabilities of more powerful Pentium II machines that will support Microsoft Windows NT

Notabook, page 54

Tape capacity boost

CONTINUED FROM PAGE 53

peting platform, belical scan, Helical scan drives include 4mm and 8mm

INTEGRATION KEY

looking at it."

Bob Amatruda, an analyst at International Data Corp. in Framingham, Mass., said the key to VRa's impact will be its ease of implementation. He warned that if the chip isn't easily integrated into existing products, manufacturers might re-

sist licensine it. "I think VR2 technology is very imetant," said Mike Peterson, president of Strategic Research Corp. in Santa Barbars. Calif. 'The logic is simple. Along comes a technology that gives you an instant two-times boost, is applicable to all linear tape, and the cost is trivial. Quite a

few manufacturers that I know of are Peterson also said that if VRa lives up to its potential, it will enable the Travan Network Series (NS) format to be the nest market growth leader. Travan NS is the latest version of the low-cost Travan format originally developed by Imation Corp. in Oakdale, Minn A Travan NS drive offered by Boulder. Colo.-based Exabyte Corp., called the Eagle NS8, has an uncompressed capacity of 4G bytes and costs \$499. If that capacity were doubled by VR2 technological

gy with only a slight price change, Travan NS would cost about 7 centa per megabyte, VR2-enabled DUT would cost about to cents per megabyte, and the cost of 8mm tape would remain at about 18 to ao cents per megabyte. Paul Gedmin, data center manager

at the Florida Keys Aqueduct Authority in Key West, uses amm drives from Palo Alto, Calif.-based Hewlett-Packard Co. on two HP Unix servers and one NT

Gedmin said enhancements to linear tape are important to him because he is looking at linear tape for Windows NT system backup. "But we would stick with whatever HP recommends because it's more important that we have a good reonship with our major OEMs in case we run into problems or need to go back and read tapes that are 3 years old,"

Tools extend storage arrays

CONTINUED FROM PAGE 53 software and subsystem int according to recent research by Nick

Allen, an analyst at Gartner Group, Inc. in Stronford Coun

For example, BankBoston Corp. factored in the cost of previous downtime suffered before using EMC's Symmetrix

Remote Data Facility (SRDF) to move data to a new data center. The bank determined that the resulting software costs would be min. imal, said Jack Blanchard, a SYSTEMS systems consultant at the Boston compa-

Use of SRDF is limited because Bank-Boston completed a major data center migration last summer, but Blanchard expects to see more use next year when the bank moves data to an off-site locanon for disputer recovery

LEADING THE WAY

Hopkinton, Mass-based EMC, one of the pioneers to add software to storage subsystems, this year introduced two tools for its Symmetrix arrays DataReach and TimeFinder. It and updated SRDF last month to extend its geographic reach

Company officials claim to have sold a,000 SRDF licenses and expect soft ware-based sales to jump from \$75 million last year to \$200 million this year. But EMC 1511't alone (see chart page

53). Hitachi Data Systems Corp. in Santa Clara, Calif., has come out with similar software support on its 7700 disk arrays. And IBM updated its popular Spanshot Copy software last month to support inframe VSAM files, which constitute nearly half of all mainframe data

The storage tools use the disk array's high-speed, proprietary backplane to move data instead of relving on corporate networks and

--- servers. Users thereby save valuable processor cycles on the bost server or mainframe. That is crucial because a recent survey by Find/SVP in New York revealed that 43% of data center managers say data transfer operations are suckuse up 20% of their mainframe processing power.

The savings translate into more tim to battle batch windows and make production systems more accessible to

With Snapshot Copy, we have been able to cut down on our backup window at the end of the day, then start up our production runs earlier," said Dick Fernandez, assistant vice president of comtine services at Insurance Services Of fice, Inc. in Pearl River, N.Y.

The firm is storing and backing up nearly sT byte of data with the combition of Snapshot and IBM's Ramac Vir-tual Arrays. II

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Notebook upgrades

r o. The new Bentium II models are due

nest spring Nonetheless, Intel Corp. plans to announce its a66-MHz mobile processor Jan. 12. The abnouncement ly four months after Intel's rollout of the Tillamook processor, which boosted speeds to 200 MHz and ass MHz. New 266-MHz notebooks with a starting cost of about \$4,000, are ex-

pected to begin shipping next month SLOW DOWN THE PACE

"I'm not going to let them push us in getting something we don't want," said Joe Quon, notebook product manager at Pacific Gas & Electric Co. in San Francitco, which has about a one notebook

Ouon said be is evaluating and start ing to order Dell's 233-MHz Latitude XPi laptops for next year. "For us, the pace of upgrade) is a little fast. We're just starting to migrate to Windows of and move an older Banvan system to a Windows NT network," he said.

Quon, who said be takes eight mor to a year to evaluate before committing to a new notebook line, said a machine's weight, battery life and screen size is more important to users than the speed of a processor.

According to an IDC survey of 500 small to midsize companies, 41% completed large-scale upgrades of their in-stalled hase in the second half of last year and the first half of this year to 135and 166-MHz machines, up from the aa% that typically upgrade over similar

Fewer laptop purchases late this year will contribute to a 5% decline in worldwide PC sales expected in the fourth

quarter, Giusto, said For many users, 166-MHz machines are "extremely fast and extremely usable" and \$850 cheaper than a machine with a Tillamook processor, said Phillip Red-man, an analyst at The Yankee Group

consultancy in Boston. *Upgrades are notori radford Bingel, information ser-

vices director at Shorenstein Co. in San The fastest of Shocenstein's notebooks om Hitschi PC Corp. in San Jose Calif., and Toshibs America System Inc. in Irvine, Calif., have 166-MHz

"We just don't want to put the money into them at this time," Bingel said. A too-MHz Pentium processor is "more

than adequate" for the majority of O been td weens a'coleter

Briefs



Leased laptops solve disposal issue

► Eliminate cost of donating, refurbishing

By Kim Girard

USED LAPTOPS. Users have tried to throw them out, and they have tried to give them away as a tax write-off. Now a growbetween 15% and 20% next year, according to international ing number of companies are turning to leasing as a way to sidestep the disposal nuisance and keep their models up to

of what to do with this junk after 16 months," said James Campbell, a laptop help desk adviser at the California Comesation Insurance Fund in San Francisco, which leases 900 Dell Computer Corp.

Campbell said he is still try-ing to find a way to recycle old the office closets of auditors and you can't fit them with new ap plications, and we can't donate nem. No one wants them with

out Windows 95," he said. Nationwide, corporations now lease about 10% of their notebook and desktop PCs, a num her that is expected to jump to

ing expense of scrubbing a hard drive and removing ware and sensitive informa tion before donating or passing the machine on to another user and the administrative over head of organizing donation

Laptops, page 56

DEVIEWS

Win CE 2.0 handhelds are good fit

By Chris De Voncy

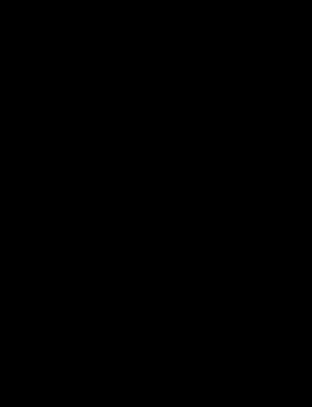
WITH BETTER displays and closer compatibility with Windows, the new generation of Microsoft Corp. Windows CE 2.0 handheld PCs are better companions for

the desktop computer than were their CE 1.0 predecessors.

After examining preproduc-tion versions of Hewlett-Packard Co.'s \$895 620XL and NEC America, Inc.'s \$795 MobilePro 700. I found that the new unit are faster, more capable and easier to use with Windows, and they offer more form-factor choices than the CE t.o ma

ng: Buying any CE 2.0 handheld right now is almost impossible, and it will be a





Briefs

Work-at-home surges in the U.S. continues to oom, expanding to 34.7 mil-on homes this year, up 5.6% from 1995, acco ts Corp. in Fr

ile cash by ph ni, Inc. in Colgary, Alber will faunch an expe ly next year to incl rt-card technology in its

held F-mail

onization tool that ters with Novell, Inc.'s Wise 2.0, now si

g, allows Psion handt pWise in the office.

How many handhelds? oridwide share of handheld PCs shipped in the first





net backup goes mobile

MARY MURPHY, chief financial officer at GreVlock Management Corp. in Roston, can remember worrying about protecting the data stored on her com-

pany's 15 laptop computers Eighteen months ago, the venture capital firm had no strategy for backing up notebooks that staff took on the road. Mureby said. The common used desktop tape drives and Zip drives from Roy, Utals-based

rga Corp. to back up systems in the office. "We were living in the Dark Ages. Someone always had to remember to pop a tape or cartridge in,

and it was difficult to ensure that everyone was beng protected," Murphy said. To protect the company's lapton-based data, Muz

phy and her colleagues decided on an Internet-based tackup service offered by Connected Corp. in Framngham, Mass. Greylock's data is stored on hardware

Leased laptops solve disposal issue

 Eliminate cost of donating, refurbishing

USED LAPTOPS. Users have tried to throw them out, and they have tried to give them away as a tax write-off. Now a growing number of companies are year, according to International turning to leasing as a way to sidestep the disposal nuisance and keep their models up to

*Leasing handles the problem of what to do with this junk after 36 months," said James Campbell, a laptop help desk adviser-at the California Compensation Insurance Fund in San Francisco, which leaves 000 Dell Computer Corp laptops

Campbell said he is still try ing to find a way to recycle old notebooks that are scattered in the office closets of auditors and adjusters across the state. "You can't sell them to employees, you can't fit them with new applications, and we can't donate Nationwide, corporations now

them. No one wants them without Windows 95," he said. lease about 10% of their notebook and desktop PCs, a number that is expected to jump to between 15% and 20% next

Data Corp. (IDC) in Framingham, Mass Leasing eliminates the time consuming expense of scrubbing a hard drive and removing software and sensitive informa

tion before donating or passing the machine on to another user and the administrative overhead of organizing donations Laptops, page 56

Organizations that recycle laptops

Gitts in Kind America

(703) 836-2121 East-West Education Development Foundation.

(617) 261-6600 Non-Profit Computing

(212) 759-2368 uting Recycling/Mentoring Association

(301) 229-7391

I USA CityLink Project: Floories for Kiddles (504) 898-2158

Win CE 2.0 handhelds are good fit

By Chris DeVoney

WITH BYTTE displays and closer compatibility with Windows, the new generation of Microsoft Corp. Windows CE 2.o-handheld PCs are better companions for the desktop computer than were their CE 1.0 predecessors.

After examining preprod tion versions of Hewlett-Packard Co.'s \$895 GaoXL and NEC America, Inc.'s \$295 MobilePro 700, I found that the new units are 'faster, more capable' and engine to use both Windows and they after more form-factor choices than the CE 1.0 ma

Warning: Buying any CE 2.0 handheld right now is almost impossible, and it will be a Review, page 56

REVIEW

Windows CE 2.0

CONTINUED FROM PAGE SS th or so before you can get one. Units either aren't yet in production or are being produced in a limited way. Also, be aware that if you buy a handbeld running CE 1.0, you can upgrade to CE 2.0, but you won't get the full functionality that you would with a device designed for 2.0. For example, CE 2.0 supports color dis-

plays, which weren't available on the z.o teneration CE 2.0 doesn't resolve all problems associated with handheld computers

These units are still best for ople who must combine elecmic organizer functionality with the ability to view and edit erosoft Office documents in sub-\$1,000 handheld form

Windows CE a.o. announced in September, is Microsoft's ing embedded platform for a variety of devices: handhelds, game consoles, smart teleones, act-top television bosos and others. The new units take rantage of more and fast processors for CE and in the case of bandhelds, cheaper hardware. The RAM supported by hardware manufacturers typically is doubling from between 4M and 8M bytes to between 8M and 16M bytes. The new units overcome the

But the HP 620XL offers shaht ly larger keys (usable but not touch-typeable), and the NEC Mobile Pro 700 offers an almost harshest criticism of 1.0 ma full-size keyboard. chines the inferior LCD. The Limited support for functions found in desktop applications, 2.0 machines generate 12-bit color internally and, depending is less of an issue with CE 2.0

PRODUCT REVIEW > Windows CE 2.0



ms: Functionality still. Jimited by handheld commuter hardware on the model, display a very than it was with CF s.o. For examele CE a n can accurately vert tables in Word into tabdelimited data and back. Pocket Excel now incorporates virtually all of Microsoft Excel's func-

readable 16 shades of gray or 256 colors on the internal LCD panel. But the small display size can be a strain to read. If you use TrueType font support, applications such as Microsoft Word can zoom in on a docu ment, and Pocket Internet Explorer can increase its font size. However, a zoom-in and zoomout control in the operating sys-

A Pocket PowerPoint viewer lets you show thides and sneaker ootes side-by-side on the unit's display while projecting the slides through an optional month for nightly backups of his aG-byte system. The Internet-based backup

tions, including data functions

tem - such as that on Psion.

Inc.'s Psion 5, which affects the

entire display - would be more

Another major weakness of

handhelds in general, their

cramped keyboards, still exists

welcome

market is in the early growth stage, said Mike McGuire, a mobile computing analyst at Datacuest, "Internet backup services have the potential to be as ubsolutous as car floor mats." he "If they become an additional service offered by the

major [loternet service providersi for under \$25 a month, they'll be very attractive for the comfort that they provide." NOT AN ISSUE

And although users may have to contend with lost Internet connections or faulty telephone

lines, security shouldn't be a bug issue for most users because most services use strong encryption and password protection, McGutre said. Murphy said she is pleased with the encryption offered by Connected. We have a lot of sensitive information, but I'm not worried," she said.

For those laptop users who still demand extra disk storage. removable drives are an option.

external VGA adapter plugged in to the PC card slot Most CE devices now use a standard-size lithium-ion bat-

tery that delivers six hours of full use or an extended version that lasts about 11 hours. In addition to the serial and infrared ports, most units offer a 33.6K bit/yer modern and a BC card Also, all 2.0 units can print ocuments via the serial or in-

frared ports. Windows CF 2.0's continuous data synchronization lets you disconnect the handheld from the desktop within seconds of altering data and know the handheld is up to date. You can also synchronize a handheld with two desktoo such as a home PC and an of-See PC And CE 2.0 offers most of

the electronic-mail and scheduling services available in Microsoft Outlook In general, the handheld PCs based on Windows CE 2.0 handle their desktop companion

chores well. But the cost is relatively high and the small form factor still imposes some ergonomic compromises. These handhelds won't replace all notebooks, but more mobile workers should benefit from their improve ments. D

DeVoney is a freelance writer in Seattle. He can be reached at cdeveney@connect.com

Michele H. Goldschmidt, a

health education coordinator at Kaiser Permanente who serves 24 Middle Atlantic hospitals from her Rockville, Md., base uses a Shark external hard drive from Avatar Peripherals in Milpitas, Calif. The Shark is about the size of

a computer mouse, weighs 9.7 oz. and uses a soM-byte rem able disks. *By moving my presentations and education par phlets to Shark disks: I don't have to worry about clogging up my hard drive," she said

Chris Lahiff, a LAN admini trator at Catalina Marketing Group in St. Petersbure, Fla., said a quarter of his 100 laptop users seeking extra storage u

external lomega Zip drives. "The biggest benefit is that the 100M-byte Zip disks let laptop users swap out presents tions," Lahiff said. "And when our users need different files as they travel from city to city, we can send out different Zip disks

to their hotels." lomera recently announced availability of a notebook version of its meernal Zio drive. D

Laptops

CONTINUED FROM PAGE 55 But the option isn't for every

David Eisenlohr, vice president of data center opera at Pacific Exchange Co. in San

Francisco, said the stock exchange recently decided to keep We felt that it was app

ate to purchase so we can hand down the laptops," he said. He noted that giving older machines to people who aren't power users expands their life to up to three and a half years.

WHERE THEY GO

About 40% of 250 large corporations surveyed by IDC said they hand down machines to junior" users, at a cost of up to \$400 per user to reconfigure a machine. Another 22% of the companies denate the laptops, and 11% throw them away.

John L. German, director of Non-Profit Computing, Inc., a New York-based organization that donstes systems to schools and the needy, said the group's laptop donations are small: about one to every 20 desiston systems. Many companies stil throw the machines out instead of donating them because laptops often develop simple but expensive repair problems, in-

ading cracked acreems or broken keys, German said. The simplest thing to do in a corporate setting is shove if out on a loading dock and pay someone to haul it away." German said. The people involved often know that these machines are good and useful, and they feel morally appalled, but they

sometimes get forced to throw them out." The biggest problem with used portables is that, in many cases, their hard drives aren't as easy or accessible to ungrade as desktops, said Nathan Nuttall. an analyst at Sherwood Research, Inc., a Wellesley, Mass.based consultancy. That leads many corporations to just toss

the machines after 24 to 16 The problem is by the time [a laptop] reaches the end of its life for a company, it's not good enough for the typical hom computing program," said Rob soon a PC/network analyst at McKesson Corp., a pharmaceu

tical and health care manage ment provider in San Prancisco McKesson often resells lantons to employees or densites them to charity, Spoor said.

'net backup pays off

at Connected's facility for a

thly byte-based fee. Murphy said the service software can automate backup at port of a user's close-down sequence, or it can be done manually any time a user books up to the Internet or the office network.

Analysts said user worries re garding laptop data backup are warranted. Now that laptop hard disk drives average aG bytes, the old challenge of providing enough storage for users who want to use laptops as their primary PCs is giving way to the new challenge of backing up aptops that have replaced traditional office systems.

By and large, company notebooks are not getting backed up," said Fara Yale, an analyst at Dataquest in San Jose, Calif. 'And looking at the growing capacities, it's almost certain that laptop mers are working with valuable ... data that needs efficient and reliable protection."

Greylock has had one case of a fried laptop hard drive that tested its service's reliability Murphy said a CD that Conpected sent with the hard drive's backup files restored the entire system. "It worked well.

and it made our users feel more secure. They know now that if they do Internet backups of the data they're getting on the road, they'll be safe," Murphy said. Pittsburgh-based SafeGuard

oteractive, Inc. offers a similar Internet backup service. It charges a flat annual fee, and like Connected, it backs up only files that have been changed. Kim Medlin, a vice president

at Atlanta Custom Homes, Inc. uses SafeGuard's service. He said be decided to move from tape backup to an Internetbased system because of maintenance. "I don't make any

money when I'm managing my own backup tapes," he said. Medlin pays about \$10 per

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business computing. High-powered multimedia capabilities in a network ready machine. Plus, all Micron ClientPro PCs arrive custom configured. Easy to set Easy to expand. And easy to network. All backed by award-winning 24-hour customer service, technical support and one of the best limited warranties in the business. So if you're looking for the best

combination of performance, stability and price, it's time to switch to the ClientPro 766Xi.

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THINKING OUT OF THE BOX

Managing

EDGE FEATURE FOR THE FEATURE F

Do you want to be a true leader?

Noel Tichy, author of The Leadership Engine: How Winning Companies Build Leaders at Every Level, says real leaders teach

others to be leaders, and that requires ideas, values and a quality he rarely sees in IS. He calls it "edge."

od M. Tidy knows loadership. For a years, this University of both postsons has deaded a section of the postson has attended America's top basiness leaders up close, worked with people such as General Electric Co. Chairman and CFO jack Welch and taught leadership as director of the university's Global Leadership Program. Tichy co-authored Control Your Desiry of Sonneen Else Will, the Andmark book about Welch, and ran CE's renowned leadership training unggram. Now he's summarized what he's learned and put together; now



"Leadership is very simple. Your jeb es a leader is take the assets you are given today and make the more valuable for tomorrow," Neel Tichy says

pages of leadership development exercises in his new book. The Leadership Engine: How Winning Companies Build Leaders at Every Level

Tichy spoke about why leaders must develop other leaders and the state of leadership in the information systems world with Computerworld's Allan E. Alter. The following is an edited version of the conversation. Additional excernts (including jibes at outsourcing, Dilbert and learning organizations) and audio clips from the interview can be found at www. computerworld.com, Look under Features.

CW: A big part of your new book must be lessons that

great leaders have taught you.
TICHY: Absolutely: I learned they all buy in to the ption that you win by developing leaders in all levels of the organization. That is something you absolutely cannot outsource to consultants and professionals. It is a mainstream responsibility. Therefore, guys like Andy Grove at Intel [Corp.] teach orientation, Larry Bossidy ICEO at AlhedSignal, Inc.) was teaching and interacting directly with 15,000 people the first year be became CEO

The classroom is only the tip of the iceberg, Jack Welch organizes his strategy reviews, budgeting reviews and people reviews to be real-time coaching sessions. Larry Bossidy follows up every strategy session with a two- to three-page letter to his direct reports. It's a coaching, teaching document. So if you really analyze the use of their time and their resources, the majority of it, the single most important activity, is developing the leader.

CW: And that's why you say teaching is at the heart of TICHY: Absolutely. And it requires them to have

what I call a "teachable point of view." CW: What do you mean by a "teachable point of

TICHY: Well. I use an example from sports. I say look, Michael Jordan is one heck of a banketball player We don't know whether Michael Jordan can coach. A guy like (Chicago Bulls coach) Phil Jackson has a teachable point of view at coaching. He has ideas about how to play the game, he has a set of values, he's got a way to energize players and he has the caracity to make the yes/no decisions about who plays when and so forth. The same thing with a business leader. You have to have three things: ideas, values and what I call "e-cubed," which stands for emotional energy and edge. Leaders create positive emotional energy in neople. The third "e" is edge. You've got to face reality and make the yes/no decisions about people, about prod-ucts, about investments. Not study it or call in McKinsey & Co. for six months, but make the yes/po decision and move on.

You have got to be able to emotionally energize peo ple. If you are Jack Welch and have a50,000 people you don't only do it face-to-face. You have to invent ways to energize people, like getting every-one involved in his "Work Out" effort "Work Out" is a series of off-site Town Hall and problem-solving meetings at which GE staff come up with ideas to kill

buresucracy and improve the organization Leaders must accept or reject the ideas on the s or like training the top 5,000 people at GE [to] be change facilitators in the company's change acce tion program.

CW: What part of this do you find hardest for peo-

TICHY. The one I find the toughest is edge. The others take some work and struggle, but the one that I thank is hardest to develop in people is the toughness. the courage to make the yes/no decisions. One of the problems in our big, bureaucratic companies is you can get all the way to the ton and never have to make

yes/no decisions I did some consulting at Harlem Hospital in New York. I realized the most important leadership position there is the triage juries. The triage nurse makes the yes/no decisions. If you get treatment now. You don't get treatment for five hours." Those are life-and-death decisions. If you had someone without a set of ideas and values to make those decisions, you'd be floundering. How do you develop triage nurses? Well, you certainly don't take them right out of marsing school. You start by giving them a set of experiences where the risks get higher and higher, but where you are forced to make yes/no decisions. You might work in a little community hospital, then work your way up.

CW: You write, "To some extent, every good leader is on a-...." Frankly, IS professionals think there are enough s---- already in misns

TICHY: That comes from the opening page of the Control Your Dentity book. The quote was, "Jack Welch is the greatest CEO GE's ever had. Jack Welch is an That comes off a flip chart at the first program Welch asked me to run in 1985, an orientation pro-

gram for new off-campus hires. When I went into a break-out room and saw that, I knew we were home free, because that was reality. Leadership is not about winning a popularity contest. It's about doing the right things. And early on in any transformation, the leaders are in the minority. They are going against the grain. Therefore, they are going to be seen in the even of many as an a--- Now re

years later, you will hardly find anybody who will call Welch an a-Leadership is very simple. Your job as a leader is to take the assets you are given today and make them more valuable for tomorrow. And in today's world, that means being able to creatively destroy the organization you've been handed. Because if there's one thing we know, it's not the right organization for tomorrow. And in the process of doing that, you're going to generate

CW: What have the great leaders you know said to you

massive resistance to change

bout leadership in IS organizati TICHY: During the last decade, most of the CEOs I've dealt with have been disappointed with IS. It's also reflected in the number of searches that require them

to go outside. And what they complain about, in fact, is the lack of leadership in that function that drives shareholder value. [There have been] huge expenses and revolutionary change occurring in the industry. and they're getting a reactive, almost status-oùe ora enction.

tation out of the fu

The exceptions have been where a true leader with a fresh, trachable point of view ends up in that function. They are able to think like a true business leader. That means they understand how the company mal money and how that gets translated into the capital

markets. But far too often, the FT people attach their cart to a sick horse. And the sick horse is businesspeople who don't know what the heck they are doing in the business. So we design these information systems in a lot of companies that aren't tracking the right activities. If the IT people aren't businesspeople, they're not going to be asking the right questions or demanding that their clients know the right questions.

CW: Not a single leader you profile is in an IS ory zation. As a matter of fact, I see a lot of books on less ship, and they just about never discuss IT less ide of CEOs of high-tech vendors. Why is that?

TICHY I think it's staff functions in general, It's not just IT; finance and human resources are not profiled, either. The reality is their job is a support function.

CW: And, at the same time, you want these people to TICHY: It's work that ought to be done

First, I want a business leader who understands the teachable point of view of the CEO - ideas, values, how they energize people — and then can build the enabling infrastructure for the company. If that doesn't exist at the top, then you are going to waste a lot of time and money and effort and misapply technology. Then the IT people must develop a teachable point of view for their own function, to talk about the ideas in IT that are going to support growth the values that will implement those ideas, how we will energize our people and the rest of the company on usone this technology

CW: Have you talked with IS people about leadership? What impressions did you come away with from these

TICHY: I've done a number of sessions with IS per ple, and my impression is they recognize the need for stronger leadership - they kind of nod their heads and acknowledge that this is the right stuff. But then it comes back to: Do they have the edge to acknowledge that this is a problem and make some yes/no commitments to doing something about it? The answer has basically been no. I don't see a lot of leadership develsent activities happening in IT right now, and I nk there should be a lot more. O

Alter is Computerworld's department editor, Managing.

OURCES FOR IS MANAGERS

Success, Satisfaction to the Max

Although he is retired. Max Hopper remains a legendary CIO, having played a key role in the development of American Airlines, Inc.'s Sabre, the first erized airline reservation system. He later led The Sabre Group as a spin-off. Since 1995, Hopper has run his own Dallas-based consulting firm. He talked about several issues, including how to be a successful CIO, with John Windsor and Leon Kappelman, professors of business computer infor-

mation systems at the University of North Texas in Denton. (The following is part of an interview published in the Spring 1997 issue of "Data Base," the quarterly publication of the MIS specialinterest group of the Association for Com-puting Machinery.)



A. You have to think of the technology world that you're responsible for as a business. You have to run it as a business. That means you've got to make sure that the operational preds are satisfied. . .

First, the reliability of existing systems. You just have to make that occur. Your credibility starts there... you may not get a lot of credit for doing it, but you'll get bell if it doesn't happen

The efficiency of systems is also key. Some trends are in your favor in rms of the reduced cost of goods. But when you move toward client/server. if you move too quickly or don't have appropriate controls or support struc-

tures in place, it could end up costing you a lot. The third piece is the marketing. Not only what you have done, but also what technology can do and how it can support the business. I feel like I've been a kind of middleman, selling ideas upward. . . . An obvious piece is trying to develop some strategic direction that matches with the corporate strategy and structure and tends to support a unified architectural solution.

Don't underestimate the cultural changes of implementing new technology solutions. If there's one fault that belongs to both CIOs and entire businesses, it's that they give maybe a day or two days of training on how to use the system without any real comprehension of the psychological impact and what it may mean to the person using it. What is that cultural change?

Q. To really be successful 20 years from now, what are the threats and oppor-

ties to which CIOs and aspiring CIOs need to pay attention? A. The biggest opportunity and threat posed is the senior management of the company you're associated with. If they still believe that computers are a necessary avil but just big calculators, you're not going to get very far. If their whole idea is to minimize costs and/or use them only where they barely substitute for totally measured dollars, that's not a strategic point of view. I'd also look at the broad value of information systems in the industry I'm in. If the industry is not using IT or doesn't need to use it intensely or effectively. your chances of breaking through or doing new things are low. Now if you find that kind of situation and the industry could be using it more, that may be the best of both worlds. You might be able to create something of real strategic value If your industry and your company recognize IT's value. then it's a question of how far you can go.

Q. What did you find particularly satisfying about being an IS professional? A. It offers you the ability to see how business operates from all the aspects

from operational through strategic. If you're at all attracted to being a prob lem-solver, this is the place to be. The other aspect is it requires you to work with people.... IT solutions require people who can think conceptually, peo-ple who are committed.... It's those bright, exceptional and committed people who make any solution ultimately work. Just being part of that is so per sonally, intellectually and socially stimulating. O

BOOKSHELF

orritorial Games: Unders By Annette Simmons: Amacom, New York, 222 pages. \$22.95 (hardcover)

File this one under organizational views you can definitely use, especially if you're a

CEOs, ClOs, IS managers and other igner-ups can raise Territorial Games as a thire flag — and use it as a workbook to ease the turf wars that increasingly flare up in today's downsized, short-staffed cor-scents would

rate world.

When fights over limited resources and
wards siphon off the valuable creative
ces of a workgroup or sahotage organizanal goals, we usually have one standard
in any property of the control of the contro se: We sit in som er over a beer, and we grape about it."

ce, interdepartmental battles in a enlightened way — or risk company tency and/or financial loss.

herociency analogo manacia sous.

In Britistrial Games, Simmones offers a
olkey, first-hand look at how we all learn to
play the business game" when dealing
with co-workers, bosses and clients. The
ook is a report on her research into textrize (up to 100 employees) to b for examples of turf wars they had been in tolved with, for example, or for instances is which they had witnessed drufunctional are

one has divided this beloful, is mative guide into three parts. Part I deals



CONFERENCES

Want to catch a conference or two in mid-January? If you're is cryptography and the IS skills shortage, the Bay Area beckons.

he Claremont Hotel, Berkeley, Calif. This national convocation will address worker shortage in IS and offer task fo worker stortage in its and other than know forums to address it. The conference is sponsoned by the Information Technology Association of America (ITAA), the U.S. Departments of Biluzation and Commerce and a variety of firms and universities.

Cost: \$235 for industry or corporate particle pasts, \$100 for nonprofits Contact: ITAA, Arlington, Va. (703) 284-5318

RSA Data Security Confere

Jan. 13-16 San Francisco (five veni

The sine que non event of the community. The eighth annual is expected to draw more than 3,000 ple, who will get the lowdown on the l reference, LIKE Pred

d social d

uree IT and street

f good things truly come in small packages, maybe you should be suspicious of the gigantic process software provided by SAP, Baan, PeopleSoft and Oracle, among others.

PACE GFD SYSTEMS: ONE WAY TO FORCE CHANGE

JIM CHAMP

Installing such humongous pack-ages often can lead to equally huge

beute force

Common glitches include time and cost overruns, frustration when your company's processes don't fit the system design and the seemingly endless struggle to get processes and systems to work together. Sometimes those big systems efforts are abandoned; other mes senior line managers grit their teeth as they spend tens of millions of dollars to make the systems work by

Those experiences prove what we have known all along: Big-time technology and process change can't be bought shrink-wrapped. And major ef ficiencies don't come from technolo alone. Big payoffs happen only when underlying work processes change. But read on, because I'm not cate gorically saying large, packaged sys-tems can't work or shouldn't even be

tried until a company's processes have been completely understood and re-

DIVE RICHT IN Examining my own dogma, which is that a firm should tarefully analyze how it wants to operate and then select a package, I've come to a surprising conclusion: Jumping in beadfirst may be exactly what some companies need.

That notion comes after years of watching sensor line managers struggle to make big change happen, often by trial and error. It isn't easy to find the change lever in a company. It of ten lies somewhere between fear and vision. And just getting change started can be problematic, particularly when a business is doing well and people

don't see the need for change. So I haven't been shocked to see some managers just commit to an SAP (or similar) system as a way to launch their companies into the abyss of op-

It's a dramatic way of getting started - sort of the sink-or-swim approach to business transformation. The risks are that both information technology and line managers will un-derestimate what it will take to get the job done — in terms of highly skilled people, time and money — and that at least some process work must lead the mentation. Of course, there's the ional danger that the business

might be harmed, but I hope people won't be that dumb. The other benefit of a large-package approach is that it will confront you pediately with all that may have to change to really improve business per-formance. If, on the other hand, you take a slow and incremental approach to change, you may never see all that's required. There's no hiding from how his the effort is when you face a choice

ong the 8,000 variables, for example, that SAP demands. Purther, if you're serious about implementing change globally, a package approach may cause you to stop and get global agreement on how processes will work remotely. Usually managers come up with an idea in Boston, say, and then try to roll it out in ngkok. At best, it will be rejected in Bangkok; more likely, you just won't hear anything. A large package can

force you to contemplate the global Now, to be clear, my preference and advice would be first to carefully re-

scheme of things.

and then decide whether to buy or build a package. Logically, you would change how your company operated as you changed the technology. In fact, if you don't have some understanding of how things really work in your come ny you could make a big mistake in

your choice of technology

But the ultimate risk in the rush to buy or build big new systems infrastructures is that we may all be pour ing the next big block of concrete. member what we said about tech

plogy when we kicked off the reengineering revolution several years ago: The way business was done was virtually cast in concrete by the complenity of our systems. My first mai mark, where it was very difficult to change how their retail shops operat ed because the underlying sys were so elegant and com ogy had become a block to, not an en abler of, change. What we need are highly adaptive systems.

What should worry you the most about the next version of SAP or the like is whether it's the technology approach that will give your company arility or whether it's just one big system replacing another. That's the stion that should keep you up at

Champy is chairman of consulting at Perot Systems Corp. in Cumbridge, Mass. His Internet address is JimChampy@ps.net. His newspap columns are syndicated by Tribune

Study: Makers of consumer goods turn to iT to aid growth



Buyer's Guide

COOLNESS

KEY WAY COOL

COOL · KINDA COOL

NOT SO COOL TEPID

We scouted computer

stores, elbowed our way through trade shows and picked the brains of experts to present some of the coolest gadeets and tools (OK, some are toys) on the market for the holidays and 1008. We tracked down the vendors and brought 17 products into our offices for brief, hands-on reviews by Computerworld writers and editors and even a few of the real techno pros the staff's kids. In the end, we tried to gauge each product's coolness (see Coolness Key at tool. We couldn't fit everything in, so in many cases we chose products that are representative of several m their category. Some of these products your kids will love. Some the kid in you will love. Some are cool in idea only. Some will actually help you do your job. And some may be good last-minute holiday gift

\$2,499

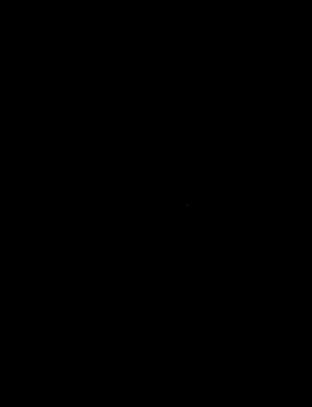
Serious, and senously affluent, photogra phy enthusiasts who need a digital stillimage camera and a digital camcorder can have both in Canon's Optura. Despite its mind-boggling complexity, this engineer ing marvel is a delight to use. For example, the FlexiZone AF control lets you focus on any part of an image, giving you flexibility in how you compose your snap shot Howard Millman

KAI'S PHOTO SOAP Meta Tools, Inc.

Kar's Photo Soap editing : you skillfully reclaim your

perfect pictures. It provides art, textures and backgrounds dull photos. Yet Photo Soap suffe flaws such as an inconsistent interfi-Howard Millman





KINDA COOL 樂豪 NOT SO COOL 樂豪 TEPID 豪

CTIIFF '98

We scouted computer es, elbowed our way through trade shows and picked the brains of experts to present some of the coolest gadgets and tools (OK, some are toys) on the market for the holidays and 1998. We tracked down the vendors and brought 37 products into our offices for brief, hands on reviews by Computerworld writers and editors and even a few of the real techno-pros -the staff's kids. In the end, we tried to gauge each product's coolness (see Coolness Key at top). We couldn't fit everything in, so in many cases we chose products that are representative of several in their category. Some of these products your kids will love. Some the kid in you will love. Some are cool in idea only. Some will actually help you do your job. And some may be good last-minute holiday gift

CANON OPTURA Canon Computer Servi

BWW.COMON.C

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Kar's Photo Soap editing you skillfully reclaim you perfect pictures, it proving art, textures and background

art, textures and backgrounned dull photos. Yet Photo Soap surfer flaws such as an inconsistent interface. Howard Milimpin

STAR WARS JEDI KNIGHT DARK PORCES II

ERCUBE PLUS SPEAKERS gles, Inc.

STERACTOR CUSHS

Just hearing the action doesn't cut it for me anymore, I want sound that hurts. After Lansing's three-piece speakers deliver spectacular sound and clarity. Game soundtracks such as the one in the multiplayer Jedi Knight deserve that investment. This sequel is a firstperson action game that lets you develop into a Jedi knight. For those Empire sympathizers who think the trilogy dealt Darth Vader a raw deal, you can cross over to the Dark Side and be as bad as you want to be. And if you launch a thermal detonator while sitting against the power-amplified Interactive Cushion, you'll know what I mean by sound that hurts as you feel the sound waves blasting through your body. Kevin Burden



ink it's important for adults to know that it's hard for them to take care of these virtual pets. It isn't hard for kids to take care of them. The photographer who took this picture didn't take good care of him. He let him die. A kid photographer would never have let him die. But if you bring it to school, you have to make sure to pause it. They are banned from my school. You have to feed them a lot, but it's fun to play with it. Virginia Hunt, age 9 Kid 张崇崇崇 Parent 崇

Game.com is like an electronic portable diary/video game. You can take it anywhere you go. It has a cale a telephone book, solitare and a calculator and you can put game cartridges in it. I lond of liked it but thought the screen was too dark and that playing with it got boring after a while. Jennifer Connolly, age 12



BASS FISHING Radica USA Ltd.

Soo; found at many ret Hey, it's good for a laugh. This handheld electronic/mechanical game lets you cast your favorite lure and crank a reel handle in hopes of catching the big one. Then Bass Fishin' vibrates while you fight to land the fish. Adults will get bored in half an hour, kids will take longer. More dedicated fisher-folks might go for the PCbased Front Page Sports Trophy Bass (\$29.95; www.sierra.com). Jim Connolly



Easy to install and use. Biomouse ad an extra layer of security to your desk top or notebook by requiring a finger print scan to access the system and certain files. That's good for any user looking for tighter security, but the downside for mobile users is that it's an extra cos onent to carry around.



ptop and found that the phone jack is all the way across the room from the desk and under the bed? IBM's Cordless Computer Connection will help you solve that problem. It's easy to plug the base in to

the phone jack and your modern in to the mobile remote pack, sit wher-ever you're most comfortable and dial in to your network. With a little testing, you can even sit out on the porch and surf to your heart's con-tent. Stewart Deck

ed remote control finally has made its way into the hands of Web surfers. To use this, you plug a little receiver in to your mouse port, run the setup, lean back in your chair and point, click and scroll. You can use it along with a Logitech wireless mouse so you don't have to go mouse-free. It works from up to 6 feet away (but can you read any-thing from there?) and is pretty nifty

unless you have to type in a uniform

TripMaker

ource locator. Stewart Deck



of finding your way aro theld receiver with built-in maps will tell you where on Earth you are and, with some programming, can tell you how to get to your desti The receiver draws data from the Global Positioning System (GPS) satellites. Programming isn't intuitive, but the manual is helpful GPS III - good for folks such as hikers and boaters -- can be used most places except inside or too close

to a building, underwater or in caves. Cethy Gegns



T EXPEDIA TRIPPLAND

RAND MCHALLY TRIPMAKER 98 Rand McNally & Co.

Say to Say The latest ger ration of computer-based trip planners and street finders, including some competing and free Internet sites, is a 90% solution. You punch in your point of origin and destinations, and you get back detailed directions and maps. The flaws lie in some of the routes chose and the limited number of hotels, restaurants and attractions the packages link to. In some cases, the suggested routes are downright funks, taking you perhaps 50 miles out of the way. One neat aspect is that these packages now tie in to GPS devices. TripMaker o8 has a slight edge for overall quality of directions and ease of use, but all three packages can be handy. Jim Connolly ***

You may look very weird if you try this at work, but the Tsubo Glove is a massage gadget to be used on or by your significant other to relax necks, shoulders and . . well whatever, after a hard day's work on your computer. The lightweight glove has dual oscillating motors that attach to your thur and middle finger and can be charged up om of movement. Cathy Gagne





HOMEDIRECTOR

IBM

\$99.99

This estation use PC software works with special adapters for your wall sockets and light switches, sending writing to provide the control of the control of



CONTAL 3D

Ergs the most uber-techno-dweeb might have a few problems slipping on the 3-0 spect that come with the Total 3D video card. But it's worth typing at less to once, The effect of the LCD glasses is unimate to what you might expensed it a 1950s 3D movie were playing in your head. Although the effect is cook it can cause eyestrain. In fact, Canopus warms aparent letting, follower less than yor propie who suffer epispitic sextures use the glasses. Another can may be a lack of support for the spect by garme makers. Stift, Total 3D its a blast.

VIDEUMCAM TRAVELES

-

Installation of VideomCnn, a notebook or PC statched corners, as a hreez, and the step instructions were perfectly fear. Too bad the picture wasn't. Confusing documentation and configuration screens that lacked the options shown in the instructions left us with a picture that looked more flae an X-eye. Given that up, whough, and it could be a decent videoconferencing gadget — if you know yomeone else who has one. Kein'n Rigging.



CH Products

About Seco One of a batch of new joysticks that recoil with

One of a static of men glycatic state secon with gunffer, whose they not drive over binary roads and stiffen up when pulling out of a negative-C dire — now that sool // 1x a neet step in user interaction with computer programs, whether they fire games such as sealing sool in the sealing sool in the sealing programs. The effects come from the motors packed into the y-Bs stiff office the sealing sool in the proported games. Some force-feedback effects can be programmed to reach in nonsupported games. Know Burden grammed to reach in nonsupported games. Know Burden sealing parameted to reach in nonsupported games. Know Burden sealing games of the sealing sealing sealing games do reach games sealing sealing games do reach games do





VOICE RECORDER

complex could that be? Try 80'instruction pages, that's how complex This spiffs minirecorder runs on AA battenes, uses a flash memory card instead of cassettes and hås tons of features including voice-activated recording, sage editing, partial erasing and alarms. You can probably make some pretty good bootleg concert tapes with it, too Stewart Deck 0 0 0



Hi-Val, Inc.

\$649 without wireless remote

With its PC upgrade kit, Hi-Val DVD promises to take digital video disc (DVD) technology out of the home entertain ment center and pop it in to a PC for data purposes. My test results with the Hi-Val player upgrade kit were mixed and unsatisfying installation was complicated, involving an expansion card, several patch cords software and switch boxes. The product's marginal instructions provided little assistance. After two or so hours configuring the system, I ran into roadblocks when I discovered that Hi-Val doesn't yet support my rather common video cards. Howard Millmon.



Casio, Inc. put \$120

One of two contestants in our Geek Chic watch cate gory, this snazzy little piece of wrist technology features a stopwatch, five alarms, a calendar, a telememo function that stores up to 200 data items in memory, and memory protect mode, which saves your data if the battery runs out. Entening any data into this biny thing is very difficult. Lours Hunt 0 0

HARMONY SLEEP COMPANION The Sharper Image

\$49.95

The Sharper Image says its customers call the Harmony Sleep Companion "the nighttime marriage saver," and that may not be an exaggeration. The watch has sound sensors that pick up repetitive sleep sounds (we're talking about snoring here), and it sends "gentle vibrations" to the wearer until the sleep position is changed (and the snoring stops). (Note to editors: Next year, the only watch I test is a Movado). Laura Hunt



REX PC COMPANIO Franklin Electronic Pul www.fronklin.com

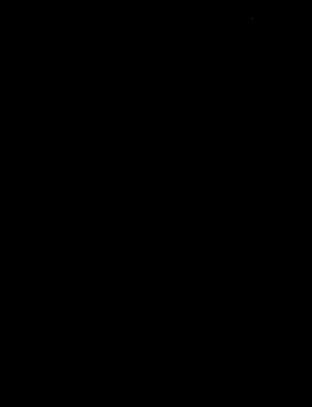
\$149.05

Its ultrasmall size (about 3.5 in wide) gives the Rex PC Companion a high cool quo tient, but its portability doesn't make up for its drawbacks as a personal information manager (PIM) You can't change appointments without plugging Rex in, and it changes appointment times when you change time zones. Think of it as a portable Rolodex, though, and you'll be to it can import data from ipular PIM software 15 to to the list price for ocking station if you n't want to use it as a PC card. Kenn Fogorty 6 6 6 6

HI-VAL DVD HOME ENTERTAINMENT SYSTEM

CD-RDM ENCYCLOPEDIAS Microsoft Encarta of Encyclopedia

Deluce Edition (\$54.95; Encorto.msn com/Encartal-jame.esp); Grober, Inc.'s 1998 Multimedia Encyclopedia (star dard \$29.95, deluxe \$39.95; www. groter.com); The Learning Co.'s Co ton's Interactive Encyclopedia '98 (\$69.95; www.comptons.com) and Bri ica, Inc.'s Encyclopaedia Britann ca CD 98 (\$125; www.britennica.com) These encyclopedia CD-ROMs blow away the set of dusty tomes of dry data I grew up using Through sound. mares and interactively, they make any topic interesting and manage to retain even a child's attention. For adults, it's nice to have a full set of encyclopedias right at your desktop. In some cases, though, there are two discs, and you have to switch between them to use certain features. Amy Mollov



complex could that be? Try So instruction pages, that's how complex. This soiffy minirecorder runs on AA bat tenes, uses a flash memory card instead of cassettes and has tons of features including voice-activated recording silence compression, message editing, partial erasing and alarms. You can probably

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TOUCH SCREEN DATABAS

estants in our Geek Chic watch cute gory, this snazzy little piece of wrist technology feaures a stopwatch, five alarms, a calendar, a telememo function that stores up to 200 data items in memory, and memory protect mode, which saves your data if the battery runs out. Entering any data into this tiny thing is very difficult. Laura Hunt

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video cards. Howard Millman

CD-ROM ENCYCLOPEDIAS rosoft Encarta 98 Encycle me Edition (\$54.95; Ence

asp); Groller, Inc.'s nedia Encyclopedia (sta ed \$29.95, deluxe \$39.95; were. olier.com); The Learning Co.'s Co n's Interactive Encyclopedia '98 60.00: www.cometens.comt and E ica, Inc.'s Encycle ca CD 98 (\$125; www.b These encyclopedia CD-ROMs blow away the set of dusty tomes of dry data I grew up using. Through sour images and interactivity, they make am topic interesting and manage to retain even a child's attention. For adults, it's nice to have a full set of encyclopedias right at your desktop. In some cases, though, there are two discs, and you have to switch between them to use certain features. Army Mollov

the Internet phone access bandon. We tried a couple of exa ples. Uniden offers a cordless phone and base station that triples as an electronic address book and electronic-mail system

It's cool for places where you don't have a PC, such as a vacation home. Its tiny keyboard makes typing more than a sen tence or two of E-mail a poin Cellular phones with Internet access are great for people who

want a mobile device primarily for voice but also must have limited data access: E-mail, stock quotes and the like. MobileAccess offers just that, but keep in mind that it's essentially read-access. Typing E-mail on any phone keyped is horrendous. Also, Cellular Digital Packet Data service for data access can still be spotty outside of downtown areas. Jim Connolly

Wearing an Annapolis ring? You almost need that education to fly this sophisticated Fighting Falcon simulator. Luckily, its quick start node begins novices in the air loaded with fuel and weapons, locked on to a target and - probably - spinning violently out of control. Fly missions over Korea, Israel and Cyprus. Only an Iraq campaign would have furthered the realism. Kevin Burden

Like its extremely popular predecessor, Myst, Riven starts you off in a new world without



re/voice recorder makes a rat simple job — measuring — cumbersome. The tape measure is heavy, and although it's nice to ord the measurements rather than write them m, it doesn't truly automate this task.

much instruction on what to do or how to do it. You don't need to be a gamer to enjoy this one; you just need the ability to appreci ate the detail of its surrealistic world, the smarts to solve its cryptic mysteries and heaps of patience. Kevin Burden ****

HEXEN II

Activision, Inc

Run to church as fast as you can after play ing this game. The first-person adventure pits the gamer against the Four Riders of the Apocalypse and their dark generals. Built Apocarypse and went pern game engine, its en with the state-of-the-art Quake engine, its en vironments are visually intriguing and offer the same multiplayer capabilities that made Quake so popular. Kevin Burden

TETRIS JR. CLONE

or suggested we review Tetris Jr. But try as we might, we couldn't get our hands on the onginal, so we settled for a clone. My quick take? I couldn't get the annoying music that plays on this muni video game to mute, which started to drive me crazy. But I must admit that it looks cute, and it makes for an interesting key ring. Army Melloy

les adding, subtracting, dividing and all that stuff, this calculator can be rolled up, but it's a little too large to walk around with it in your pocket. And you have to hold it flat when you unroll it. Amy Molloy



In Depth



It's nearly Christmas. Relax. Let the future son who uttered them?

on who uttered them?

of the information systems organization
hang fire for a week.

Take a quote quiz instead. Can you match
the words of wisdom or humor to the perFak: 1997, paperback, 170 pages, \$2.4.95).



THE QUOTES

e question of whether computers can think is just like

ing that all these tables might be cal

o can't interact with the internet if you can't read and

12. "I'd rather he illed then rich."



B. Ed Yourden

C. Vennever E. Bush

B. Scott Adams

E. Stone Wanted

F. Peter Drucker

H. Charles Baldage

L. Stateur Decembrish

J. Grace Hopper

















































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IT Careers

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CHHLD'S

BY KATHLEEN MELYMUKA

Fyou walked into a conference room last May and found Hewlett-Packard Co. information systems managers playing with Silly Putry, rubber lizards and plastic hand grenades, you might have thought they had some loose wedds on their circuit boards. The fact is, they were learning to unlock their creativity. Creativity trainers say the challense inn't to teach creativ-

ity but to nurture the creativity that's innate in everyone; to send the message that it's OK to color outside the lines. Corporations are getting that message.

Corporations are getting that message.

We're always looking for out-of-the-box thinking, says Kris Fletcher, a manager with the corporate information technology group at HP, where pressure to cut costs while providing bet-

pressure to cut costs while provid ter technology to internal custo has challenged IS managers to think more creatively.

HP's 1S managers were in the third day of a worldwide meeting when

meeting when they found things had changed.

ence room walls and ceilings were

plastered with posters, and tables were covered with toys and puzzles. Plastic fruit daugled from the ceiling, Just arriving was a shock, "Fletcher says. The order we had the previous day was no longer there."

That, of course, was the sdea.

That, of course, was the idea.

"I was asked to shake them up a little," says session leader Rita Hummel, an HP program manager who had recently moved from the education arena. Hummel focused on some real problems, and the managers began with traditional brainstorming in groups. When they had run out of



The key is just try to get them to go someptace in their min and come up with some thing to launch new ideas.

- tita Hummel, NP

CONTINUED FROM PAGE 71

ras, she showed them how to ake unusual connections

They looked at a series of photos or miscellaneous objects (puppets, rocks, rubber lizards, plastic hand grenades) and were given one minute to relate as many words as possible to each. A photo of a field, for example, might start the chain, "yellow, sunny, warm.

There was time pressure," Fletcher says. *People were jumping up like a game show; that was

Once people had brainstormed about the photos and objects, they were asked to relate those observations to the real issues. "The key is just try to get them to go someplace in their mind and come up with something and use that to launch new ideas and new associ-

ations about the problem at hand Hummel says. Remarkably, the groups did much better: Some doubled the

number of ideas they'd had using traditional brainstorming *People said if was the most productive off-site (training) they ever had," Fletcher recalls. She has taken the techniques home "I've used this with my own staff." she says. 'If you consistently try to be creative, you get more out of · people."

Life is suite

TRAINING isn't the only way to get the creative juices flowing. At the Information Services Division of American Greetings Corp. in Cleveland, for example, a recent change in the workspace arrange

ment boosted creativity. "We wanted to achieve an environment where associates would be more likely to have serendipitous encounters with each other and fortuitous interruptions," says Tim Persons, senior business con-

The thinking was that all IS eople have knowledge that's apcable to a variety of problems. so by facilitating interaction you can enable all kinds of knowledge transfer that wouldn't normally sappen. "By transforming the

ce, we created the o physical spo portunity for that," Persons says The division, which had been set up with individual rows of cubicles, was reconfigured into tram suites," with a public social area in the center and cubicles around it.

"With a slight swivel of the bair, anyone can have eye contact with three or four other people," Persons says. "Individuals have to seek it out, but we removed the barriers and sent a subtle message that we want people to engage in

conversation." Reaction was mused. *Some peo ple love it, and some people hate it," Persons reports. But the results have been positi

There can be no doubt it nurtured creativity," says David Smalley, a work group leader whose team has been in the suites for a year. "Almost immediately after we settled in, several changes were concessed in our systems that greatly improved the speed with

which we were able to handle errors. I know without question that those ideas were born by people getting together over a cup of coffee and setting out ideas right

The hidden answers

Foun Moron Co. has taken a creative approach to process improvement methodology with a program called Ford RAPID. At the one- or two-day workshops, cross-functional teams meet to look at a process, identify the problems and recommend rolutions

The planning team first gets buy-in from a sponsor - the manager responsible for the process and the one who can ap prove the changes recommended by the team

The teams comprise employees who are not only familiar with but also affected by the process under analysis. The sponsor opens the session by empowering the team to recommend solutions

Knowing the solution is in their hands gets the team's creative juices flowing. The group is guided to discuss solutions within the

nsor's realm of approval," says Every idea is a good idea." Bruce Jones, a client/sers

er architect at Ford who has par ticipated in Ford RAPID work-This way the group stays on

task. Nearly always, the group's recommendations are approved. It's a sort of guarantee to get it done " lones sun

A strict deadline know the team from getting bogged down in minutiae. They give you just you would really like," Jones says The deadline gets people to focus and it tempers discussion.

'We're looking for quick hitters easy, inexpensive solutions with big payoffs." says Roy Seifried, ning and development man

ager for Ford RAPID Getting people from all parts of the process together allows them to see the forest rather than just their individual trees You have all the right people in

the room, so they can see how the big picture works and how they all affect one another and how they can reduce barriers," Jones says As a result, some fixes are as easy as picking up a telephone. 'In one workshop, we had a group that included multiple divi sions and multiple suppliers, and

we realized that pobody had a complete phone list of all the people involved in the process." Jones says. The solution was as simple as creating this process-oriented phone list. Most RAPIDs approve four lorl five solutions. Some solu-

tions are complex, but others are just that simple Ford RAPID facilitators undergo a week of training during which they learn to nurture creativity

among team members "A good facilitator will make term members feel comfortable enough that they can think outside box," Seifned says. "If someone comes up with an off-the-wall idea, it won't be stifled. The facilitator makes certain that the environment is such that team members feel very free to blue-sky; where we are listening and are receptive to their idear

> "We have a few RAPID *One is, 62112

Measuring the effectiveness of creativity strategies is difficult because so much of the evidence is anecdotal, but you can easily get a good feel for whether it's working, says Stanley S. Gryskiewicz, au

So, just what is "creativity"

thor of Positive Turbulence (la Bass, San Francisco: 1997) and a senior fellow at the Center for Creative Leadership in Greensboro N.C. "Look at the receptivity to creative ideas," he says. "Do people feel more freedom? Choic Are they more challenged by work? Do they feel like participat-

ing in setting goals? Do they have a boss that encourages them?" If the answers are yes, you've on track. Or should we say, off

Melymuka is Computerworld's senior editor, management.

track?(I)



THERE'S NEVER BEEN

BETTER TIME.

THERE WILL NEVER BE A BETTER PLACE.

It's been a good year. Not as the clock counts down to the New Year, you may be wandering whether ye could do better in 1996. It's all a nester of where you are, And If you're at Price Materbours, the earl ment is just begreen. Explaining sport but on a solid global clerk been his created executive, the ment is just begreen. Explaining sport but on a solid global clerk been his created executive, the ties satisfered for professionals who want to take part in the land of high-profile, high-impact projects the PM is best involve. For



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CONSULTANTS

Responsibilities include performing contract and aducational activities with Logic liproducts, helping develop functional specific physical database design and providing led



TheDarlings

Big challenges, and bigger salaries, are going to data modeling and data warehousing professionals. And no wonder, considering their training



phy first bese interested in his compony's data mart oject employ-Oracle develop ment tools, the et attrac. for him

was the sheer challenge "This was a project that had laid around at Keyport for over a year. The hardware, in fact, had been purchased nine months prior to myl getting involved with it," says by, a project leader at Keyport Life Insurance Co. in Boston. There were some false starts with this project. So, call it foolishness or call it a challenge, I looked for-

ward to taking the mantle and making it work."

Murphy's atti-tude reflects that of many information professionals who are jumping into data modeling and data

not looking back. Programmers, Programmers, programalysts, database admini systems analysts, business analysts and many other IS professiona are being drawn to data modeling and data warehousing projects as a natural next step as they hone

their technical skills. *Any kind of company that can use some kind of math tool for data manipulation can benefit from it." says Ken Toylor, a business analyst at The Berkshire Group, a real-estate financial services company in Boston.

Taylor says he, too, was attract ed to the challenge and newness of data modeling work, "You're always in project meetings, and

you're doing something new and challenging. You're starting from scratch, where you get to do a lot of re-engineering, process flow design and that sort of thing. Such challenges are also met

with big rewards, or, as Cliff Calderwood, vice president of business information services at Keyport, puts it, "big dollars." Calderwood says data modeling stionals tend to be near the top of the IS ladder and are highly sought after "Certainly for a heavyweight designer, I could foresee scenarios where [he] would get regular calls from people," Calder-wood says. "I've heard \$2,000 a day quoted" on the contracting

side, he says. Before jumping on the data modeling bandwagon, IS professionals need to know that not only are data modelers and data

warehousers highly sought after, but they are also highly trained in-dividuals.

The training for data modelers and data warehousers can range from formal, ao-day courses by a third-party provider to informal, hands-on training looking over the shoulder of a consul-

tant hired to jump-start a company's data modeling project.

There is topic-specific training. By that I mean warehouse concepts, star-design techniques, Murphy says. Then we went into the specific tools training, the application tool, in this case Oracle's Developer/2000, and we also pur-

ased Oracle's CBT [computerused training) series. "It's a series of 10 CBTs covering concepts from Oracle design, database design, through to C shell scripting," he says.

From an administrative point of view, Calderwood says 15 pros can take an Oracle data administration course for one to two weeks. But then, "you get the bulk of your training on the job when you come back. You either learn from your peers or you learn by fire by actually getting involved in it."

"We had the idatabase administrator that we hired do a beginners' preliminary class on Oracle databases," says Kurt Emmenetter. manager of business solutions at Coca-Cola Enterprises, Inc. "Anything more advanced, we outsourced and would go to, for in-

stance. Oracle," he says. Sending employees to a third party for base training can cost anywhere from \$5.000 to \$15.000 per employee.

Hiring experts say valuable data modelers should have experience with database design and analysis. relational databases, programming and database administration, as well as business experience and the ability to combine data

Even data modelers need to spend time mastering "soft skills." Those include knowing the company's business and company culture, applying technical skills to the company's project, communicating well with various personali ties, being able to work in a "team environment" and being willing to

continually learn new skills. One important attribute data modelers and data warehousers can have is "knowing the business." IS managers agree that understanding the value of different pieces of data to a company's business and combining that knowledge with technical skills are valu-

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to learn the business," says John Georgevits, vice president of MIS at The Berkshire Group. "You may get that next promotion, but what you're going to wind up with is a job that you're not really qualified for "C

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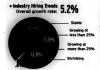
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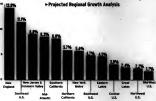
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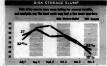
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- it could get the basic

functionality it sought Then a team of 30 code writers set out on a five-month task of lashing together the disparate modules using SAP's ABAP development language. It took a total of 3.656 pages of GATX's custom code.

But that was still much cheaper and easier than the alternative trying to patch together software from a plethora of vendoes to create a quasi-integrated FRP system. Cromar said. At the outset, analysts and

consultants told GATX that customizing R/3 would be too costly and risky. GATX proved them wrone. The firm spent less than half of the \$15 million that consultants estimated it would cost. Cromar said GATX built about 15% to 40% of the fea

tures itself, while the rest exist ed in R/s. Josh Greenbaum, an analyst at Hurwitz Group. Inc. in Framineham Mars, warned that

not all companies may be up to such a challenge. "It was a relatively risky prop osition," Greenbaum said. "I would tend to caution compa nies against taking that level of risk unless you can really see the reward at the end of tunnel. In

this case, it worked very well." For GATX, the payback means becoming a virtually paperless company, with leasing transactions flowing through R/s rather than in/out baskets on employees' desks You should see what we have

to go through now to record an invoice," said Carol Lampson manager of accounting. "We have 15 different colored forms we have to use. It's a blizzard of paper. SAP is so much more log

E-retail in reverse

some sites to fall victim to transattractions of Web-based orderaction systems that can't reverse

crpt one. "In January, there will probably be a lot of reports in the newspapers about disgruntled (online) consumers," said Erica Rugullies, an analyst at Giga Information Group in Cambridge.

Mass. "But we will also see nome success stories about merchants doing it right." Your systems have to be syn chronized. It gets tricky," said Chris Stevens, an analyst at Aberdeen Group, Inc. in Boston.

You need a substantial amount of systems integration. aditional catalog con that have moved online probably are among the best posi-

tioned, analysts said, because they already have the infrastructure to handle large amounts of whered merchanding At L. L. Bean, Inc. in Freeport, Maine, online ordering meshes

seamlessly with inventory management and shipping systems, said spokesman Catherine Hart-nett. Why set up something different if you don't need it?" But for most sites, the return

process is likely to be more manually intensive than the initial ordering Garden Escape, Inc. (1911) ounder cost wants its customers to telephone before returning a

suff, in part so the company can collect data about unpopular stems. "We will have full staff on [Dec. a6] until a a.m.," said Nancy Mahoney, director of customer solutions That lessens one of the prime

ing taking expensive human laan order as elegantly as they acbor out of the order-entry process. But Mahoney said Garden. Escape wants the chance to mollify any unhappy customer per sonally. If a product is damaged Garden Escape will arrange a Federal Express package pickup for the gift return and will pay for it, she said. Return instruc tions are included with the product when shipped. Once a customer gives an order number. Garden Escape staff members can call up the order and hit a button for refund, exchange or 110% company credit Staffers at Book Stacks Un-

imited. Inc. (www.books.com) route returns to customer service, where the status of the book is changed in the custom er's account and a credit is arranged. Customers are potified by electronic mail that the return was received and the account credited. It is a little less automated than order entry, said Mary Fair Taylor, director of

marketing

Notifying consumers of on line return policies will be one key to avoid confusion. Several major retailers that sell in stores and online, such as Barnes & Noble, Inc. and The Walt Disney Co., said gifts purchased on their Web sites shouldn't be re-

turned to a local store. Retailers have to make ware that service representatives can pull up order information and arrange credit or exchanges, Stevens said. "It's what separates the men from the boys in elec tronic commerce," he said. []

NCR sells manufacturing operations for \$100M

By Jaikumar Vijayan

SOLECTRON CORP. in Milpitas. Calif., has agreed to acquire NCR Corp's computer and reerations for an estimated \$100

Under the plan, which was positioned as an outcourcing deal late last week. Solectron will buy NCR's manufacturing aenets in Atlanta, Columbia, S.C., and Dublin. The facilities are used to build NCR's servers. retail scanners and point of sale

Solectron will hire about 1,200 of NCR's manufacturing and related support employees. The move fits in with NCR's

strategy of trying to focus on its core competencies, which are high-availability transaction processing servers and data warebeasure, said Wayne Eckerson. an analyst at Patricia Seybold Group in Boston.

TURNING ITSELF AROUND Since spinning off from AT&T

Corp. last year, NCR has divested itself of its PC manufacturing and support business,

Eckerson said "It is a kind of evolution

thing for them." Eckerson said NCR is struggling to turn its business around, to its last quarter ended Sept. 30, for instance the company reported a \$9 million loss on revenue of \$1.6 billion. That compared with a loss of \$33 million on revenue of \$1.7 billion a year earlier

Solectron is a \$1.7 billion provider of manufacturing services to OEMs. It has 18 manufacturing facilities around the



COMMENTARY

One man's wish list

Dan Gillmor

med and true

ew York is a fantasyland in December, aglow - er Internet functions in to its operating with the lights of the holiday season. It turns out to be an entirely appropriate time of year for the annual Internet World trade show, an ever-growing event that has tended to combine myth and money.

Most enterprises, stung by Internet mythology - including false claims and unfounded optimism - have outgrown their belief in a 'net Santa. Now, as the recent show demonstrated, they've moved their attention firmly to reality and the bottom line. That was reflected in Internet World '97's relentless focus on commerce and on making the tech-

nology truly work. Thus is a season that sparks hope, even amid disappointments about the past. In that spirit, let's talk about gifts - enterise and consumer-oriented - that we'd like to see the high-tech industry provide in the coming year. Heading my wish list are the following:

An even stronger focus on cost of ownip. Whether the answer is Windows NT s.o or the network computer or some-

thing else, the need for robust, reliable. cheap-to-maintain information systems construction of the most vital bridge to commisses at or more than top of everyone's list.

After years of promises, let's see it happen. Stronger antitrust action against Microsoft. The U.S. Department of Justice's belated enforcement of s gen-

erally toothless 1005 consent decree has resulted in a federal judge's temporary order that Microsoft stop forcing manu turers to bundle its Internet Explorer browser with Windows 95. That will prove to be a hollow act as Microsoft le-



gitimately builds Web-browsing and oth-

Antitrust Division will True cross-plat Java. Although Java's clearly turning into s success as a programming language, particularly on the server. Sun and its al-lies haven't come close to making the laudable idea of write once, run any-

systems. The justice Department sur-

nizes that it must file a new antitrust case to prevent one company from grasping the choke points of tomorrow's

ntitrust action against the local tele-ne companies. Sometimes, those

telephone companies are holding back

monopolists make Microsoft look positively benign. The

the Information Age:

ample bandwidth. So

far, telecom deregula-

tion has led to a wave

of mergers, with little

spogrent competition

evulting. This is a

uge scandal. Maybe

the newly rejuvenated

Justice Department

where a reality Let's hope that Sun and friends accelerate their progress. (Let's also hope that Microsoft doesn't succeed in Unix-ifying Java through its strategy of adding Windows-only enhancements.) More honesty. The technology busi-pers is notocious for its tendency to

stretch the truth. Companies Issuech au-nouncements long before they launch actual products. The computing press takes careful notes, serving as well-paid stenog-raphers, but too often fails to point out when the emperors (and would-be emperces) are wearing few, if any, clothes. Learning, wisdom and burnilly. We need more of each. on and humility. We all

A personal note: Living in Silicon Valicx, surrounded by some of the smartest and most energetic people on the plan-et, is an excellent humility booster. I have the rare privilege of loving my work, but it would be an empty pleasure without your ideas and criticism. Whether you agree with me or think I'm completely off base, please stay in

Gillmer is computing editor at The San Jose Mercury News. His Internet address is deillmor@gmercury.com.

The big three stories of 1997 David Moschella

t's been a good year for the IT industry - especially if you're in information systems, live in the U.S. or work for Microsoft. A few people even manage

to do all three.

written in the past 12 months, here's my take on the year's three biggest stories, along with a list of runners-up and those that will have to wait until next year. 1. Business reclaims the Internet. For-

get about chat rooms, virtual communities, long-distance learning, electronic pen pals and other New Age idells. This year, it became clear that the business of the Internet is business. Electronic commerce, extranets, supply-chain manage-ment and global collaboration now sit atop the Internet agenda. IBM's new ads say it all: Flashy Web

sites are out, transforming business functions is in. Forecasts for electroniccommerce sales are being hastily revised

As a result, IS's profile also is on the rise. CEOs in many industries are developing s gut feeling that IT and the busi-

Looking back at the 50 columns I've ness itself are becoming one. How else can you explain the fact that IS's credi bility is rising despite an embarrassing debacle like the year

2000 problem? In any other time, huge expenditures on somethine as fruitless as the millennium bug would have scarred the pro-

fession for years.
2. Microsoft stanalone. During 1997, cresoft locked up much of the enterprise and positioned itself to nate the Internet

as well. In Max, it threw itself a comingout party called Scalability Day, putti even mainframes on notice. By the fall, it was clear that Netscape's momen had been stopped cold.



what comes next. 3. U.S. trades places with Asia. The bursting of bubbles all around the Pacific Rim has rejuvenated plobal support for U.S.-style capitalism. Restructuring, flattening, deregulation, outsourcing. capitalism

one's watching to see

ration and a heavy dose of IT are now seen as the winning formula. That technology is at the heart of all those issue can't help but give renewed momentum to the IT industry.

As good as all this feels, resist smug-ness. Remember how tightly bound the U.S. and Asian economies really are. Although these three stories towered above the rest, there were other success-

es worth mentioning The dramatic surge of Dell, IBM's renewed services dominance, the expan sion of fortress HP into PCs and electronic commerce, the emergence of sub-\$1,000 PCs, the out-of-nowhere ascendancy of WorldCom, Oracle's widen-

ing DBMS lead and Sun's emergence as the last real Unix vend Then there were the no-shows oducts and ideas that, despite all the ink, will have to wait until next year to have any real impact; Java and ActiveX; CORBA and DCOM; network comp ers, NetPCs and handhelds, Web TV and cable set-top boses; Gigabit Ethernet ADSL ISDN and c6K moderns: and

push and desktop channels. That's 1997 in 600 words. Tune in next week for a first look at 1998. II

Morchella is an author, independentcresultant and weekly columnist for nouterworld. His Internet address is id_moschella@cur.com.

The Back Page

CRUMBS IN THE KEYBOARD

Eight out of 10 inter-

ccording to a sur-



sh TV snacking is still most common, "Internet snacking" is growing as le trade their TV remote controls for the mouse. Thirty-five percent of the 8,000 Internet users surveyed said they do "most" of their snacking at the uter. And 71% claimed they est low-fet snacks.

San Jese, Callt.

Surviving information dut

David Shenk's recent book Data Smog (Harper, 1997) offers the following advice: Take cleansing data fasts and data naps - regular breaks away from exposure

Get in touch with your work

Feel the weight of an icon as you drag it across the screen. Feel the cursor hump into the edge of the window. Feel the page breaks in a document and the columns of a spread-sheet. These sensations are possible with "force feedback" technology in the Feelit mouse developed by Immersion Corp. in



Projected 1008 growth rate for shipments of U.S. computer equipment: 30%

Ford Motor Co. employees who use the corporate intranet: 85,000 Companies with employee

complaints about offensive E-mail: 22% Companies that lack a policy on appropriate E-mail 48% Companies that lack a policy

CIOs who say they are "very unlikely" to implement

likely to implement 17% network computers:

on appropriate Web

Inside Lines

where have stack options and dealer with a view, on they write estimate glosses for joining and So sever delle or the sublishes or links try devens the mader the tree, with consensed other PCMS.

I you're caught up in the spirit of the season and have holiday greetings you want to send along or any type of news bip, contact news editor Petricia Keefs at (108) \$20-\$181 or potricio_keefe@cu.com.



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AND MOVEMENT, WES ACCESS AND INTEGRATED SECURITY. & AT THE HEAD OF DUR PAMILY IS ADAPTIVE SERVER ENTERPRISE, WHICH CONTINUES TO SE A MARKET LEADER IN MAINLINE DLTP PERFORMANCE AS WELL AS MIXED WORKLOAD ENVIRONMENTS. & THE ADAPTIVE SERVER FAMILY IS THE CORNERSTONE OF DUR ADAPTIVE COMPONENT ARCHITECTURE, AN OPEN,

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